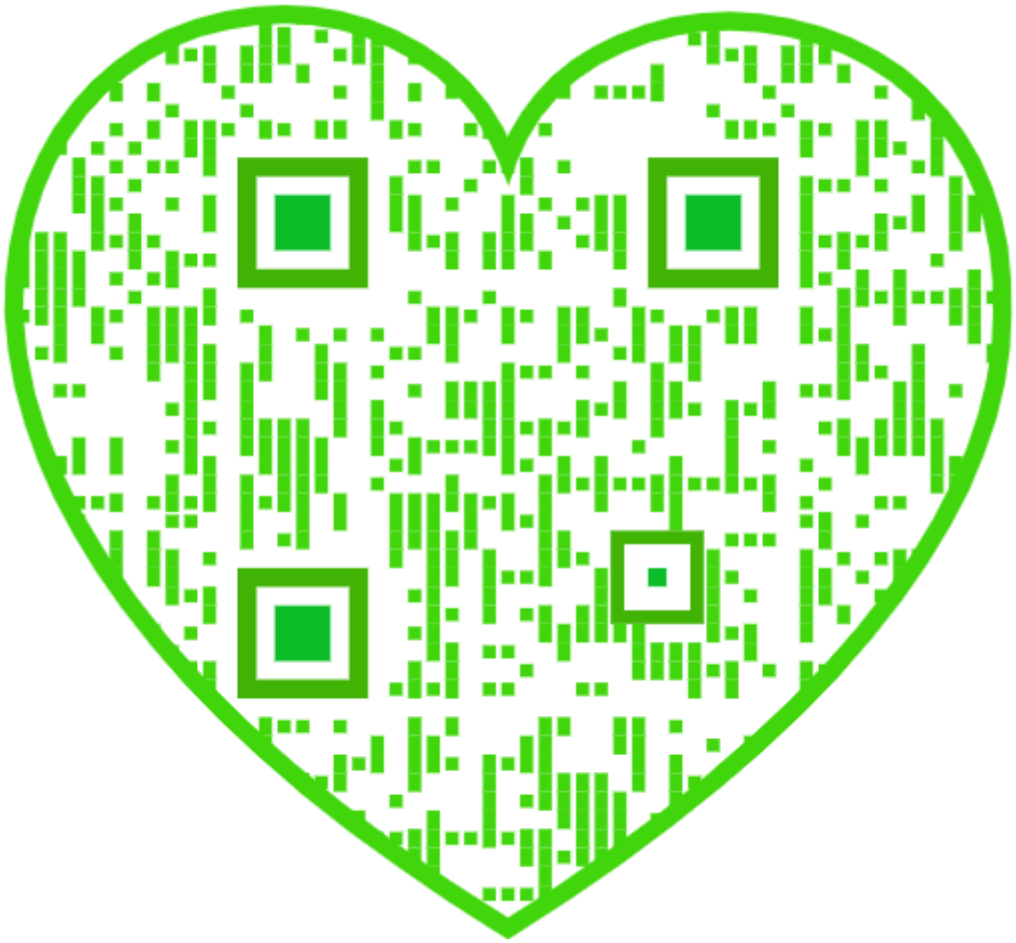


THE ARCHITECT

VOLUME X · NUMBER 1 ·
· JULY · 1915 ·

THE GRAND PRIZE

TWO GOLD MEDALS OF HONOR
ONE GOLD MEDAL

ARE THE AWARDS OF THE

PANAMA-PACIFIC INTERNATIONAL EXPOSITION

TO

W. P. FULLER & CO.

MANUFACTURERS OF

PAINTS . COLORS . VARNISHES
AND
PIONEER WHITE LEAD

THE GRAND PRIZE IS THE
HIGHEST OF ALL AWARDS

THE ONLY GRAND PRIZE
PAINT VARNISH
GOES TO

W. P. FULLER & CO.

San Francisco
Oakland
Sacramento
Stockton
Long Beach
Santa Monica
Los Angeles
San Diego
Portland
Seattle
Tacoma
Spokane
Boise
Pasadena

Wear Tells the Tale—

In making trips through large buildings haven't you observed finished surfaces that failed to "stand up" under the hard usage they received—surfaces that turned white in the doorways and around desks—spotted on the window sills and cracked under the weight of heavy moving furniture?

Liquid Granite

Lasting, Waterproof Floor Varnish

will not mar, crack nor wear white. Nor will the hottest water turn it white. Liquid Granite may be scrubbed frequently with soap and hot water without any harmful effect.

And like all Berry Brothers' products, Liquid Granite is of highest quality—a quality that is the result of over 57 years' varnish manufacturing experience.

This experience is at the disposal of all architects and specification writers.

No matter how large or small the job may be, the advice and co-operation of our architectural department is at your command.

BERRY BROTHERS
(INCORPORATED)
World's Largest Varnish Makers
Established 1858

Factories: Detroit, Mich., Walkerville, Ont., San Francisco, Cal.

Branches in the principal cities of the world

Modern San Francisco Residences

THOS. SCOBLE,
Owner and Builder, San Francisco

CORNER PALM AND EUCLID AVENUES
Jordan Park, San Francisco

EDW. E. YOUNG,
Architect, San Francisco

FINISHED THROUGHOUT WITH

Kyanize KY-AN-IZE **White Enamel**

Kyanize KY-AN-IZE **Interior Finish**

BOSTON VARNISH COMPANY, Boston, U.S.A.

San Francisco Office and Warehouse, 311 CALIFORNIA STREET

A. L. GREENE, Western Representative

Tacoma
W. J. HANSON CO.
1129 South C St.

Los Angeles
SUNSET PAINT COMPANY
627 South Main St.

Portland
S. W. HUGHES & CO.
Morgan Building

Distributors
D. H. Rhodes
546 Valencia St.
San Francisco

Distributors
Sunset Paint Co.
627 S. Main St.
Los Angeles

H. MAUNDRELL,
Painter, San Francisco

THE ALHAMBRA APARTMENTS,
860 Geary Street, San Francisco

DUNN & KEARNS,
Architects, San Francisco

Exterior Finish

—

CEMENT FRONT
Two Coats

BRICK WALLS
One Coat

THE MURALO COMPANY
CEMENT
CONCRETO
COATING
NEW BRIGHTON, N.Y.

Sole Makers
The MURALO Co.
New York

San Francisco Office
311 CALIFORNIA STREET
A. L. GREENE, Agent

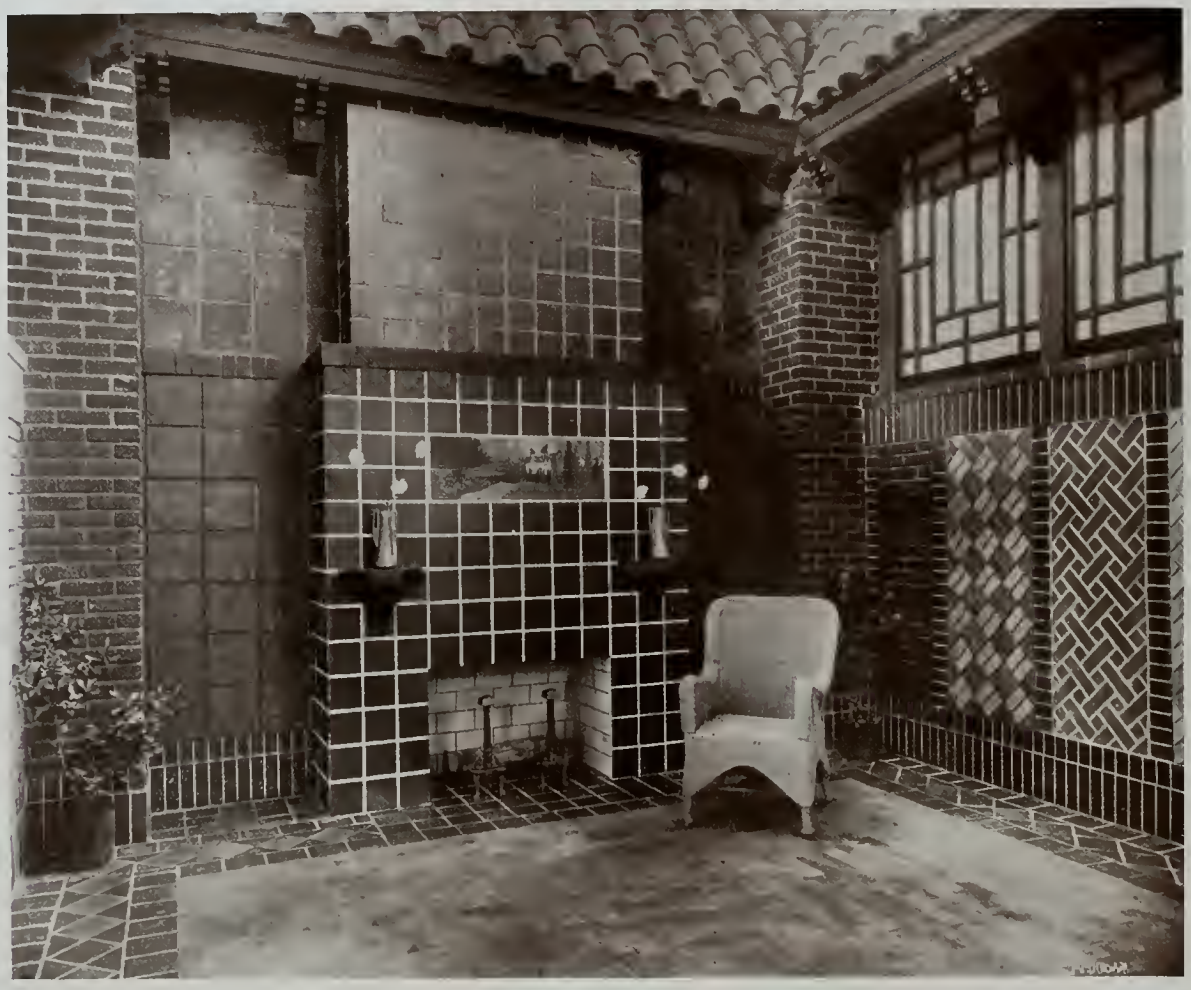


EXHIBIT OF

LOS ANGELES PRESSED BRICK COMPANY

PALACE OF VARIED INDUSTRIES

PANAMA-PACIFIC INTERNATIONAL
EXPOSITION

Los Angeles Pressed Brick Co.
402-14 FROST BLDG., LOS ANGELES, CAL.

United Materials Company
5 CROSSLEY BLDG., SAN FRANCISCO, CAL.
Distributors for Northern California

FRONT

Thru-an-Thru
or The Story of a Fragment

I am but a fragment of a fluted shaft.
I am neither wood nor metal.
I was not carved from stone.
I was not dug out of ancient ruins.
My veins were not given to me by slow Nature.
Sedimentation, infiltration, and irruption are strangers to me.
I am neither marble nor travertine.
There are no calcareous deposits in my joints, although I come from an old and honorable family.
I belong to the **Terra Cotta** family.
Some members of my family are vain, I admit; they paint, they rouge; yea, verily, they veneer.
I indulge in none of these deceptions.
I am not one thing to your face and another to your back.
I am the same through and through.
I love the vagaries of the kiln, 'tis true; and they love me.
"Promiscuous!" say you? Well so be it.
I can defend my eugenics.
My progeny is ever the same,
Thru-an-Thru!

Thru-an-Thru
THE NEW TERRA COTTA

Beautiful as marble and more enduring.
Matured in the fire and fire-proof.
Look at the front and then at the back.
Polychrome **Thru-an-Thru!**
To see is to appreciate **Thru-an-Thru!**
Samples on application.

Manufactured by

Steiger Terra Cotta and Pottery Works

FACTORY:
SOUTH SAN FRANCISCO, SAN MATEO CO., CAL.

OFFICE:
729 MILLS BUILDING, SAN FRANCISCO, CAL.

All rights reserved. Patent Applied For.

BACK

"Target-and-Arrow" Roofing Tin

MACKY AUDITORIUM
Boulder, Colorado.

GOVE & WALSH
Architects, Denver, Colorado

This is a typical example, for the application of "TARGET-AND-ARROW" Tin Roofing over wooden strips; the heavy ribbed effect is clearly shown in the above illustration.

Satisfactory service over a long term of years, on buildings of all kinds, throughout the United States, has placed this high-grade roofing tin in a class by itself.

Detail information for application of "TARGET-AND-ARROW" Roofing Tin can be found in "Sweets" Catalog or mailed on request.

Stocks carried at San Francisco,
Los Angeles, Seattle and Portland

Sold Through All Leading Jobbers on the Pacific Coast and Direct From Warehouse Stock

N. & G. TAYLOR CO.
Sole Manufacturers
Established in Philadelphia in 1810

J. A. DRUMMOND
Pacific Coast Representative
725 Chronicle Bldg. San Francisco

MacRorie-McLaren Company

Landscape Engineers

430-432 Phelan Building, San Francisco

Pacific Sewer Pipe Company

Manufacturers of

Dry Pressed, Glazed and
Enameled Brick

825 East Seventh Street
Los Angeles, Cal.

GEORGE WILLIAM KELHAM, Architect

Exhibit of

National Terra Cotta Society

In Varied Industries Building
Panama-Pacific International Exposition
San Francisco

FIREMAN'S FUND INSURANCE COMPANY BUILDING
San Francisco

LEWIS P. HOBART, Architect
San Francisco

MATT ENAMEL ARCHITECTURAL TERRA COTTA

MANUFACTURED BY

GLADDING, McBEAN & CO.

OFFICE: CROCKER BUILDING
SAN FRANCISCO

FACTORY
LINCOLN, CALIFORNIA

FEDERAL REALTY BUILDING
Oakland, Cal.

BENJAMIN GEER McDOUGALL
Architect, San Francisco

Matt Glazed Terra Cotta used in the two Facades of this Building was manufactured by

N. CLARK & SONS

OFFICE: 112-116 NATOMA STREET
SAN FRANCISCO

FACTORY: WEST ALAMEDA
CALIFORNIA

*T720.5 P11C
102952

THE ARCHITECT

VOLUME X. SAN FRANCISCO, CALIFORNIA, JULY, 1915 NUMBER 1.

J. A. DRUMMOND, Publisher . . . . . CLARENCE P. KANE, Editor

PUBLISHED IN THE INTERESTS OF THE ARCHITECTURAL PROFESSION, ON THE FIRST OF EACH MONTH, AT 725 CHRONICLE BUILDING, SAN FRANCISCO. SUBSCRIPTION IN THE UNITED STATES AND POSSESSIONS, $5.00 A YEAR; FOREIGN AND CANADIAN, $6.00 A YEAR. SINGLE COPIES, EACH 50 CENTS. ENTERED AS SECOND-CLASS MATTER AT THE POST OFFICE IN SAN FRANCISCO.

CHANGES IN, OR COPY FOR, NEW ADVERTISEMENTS MUST REACH THE OFFICE OF PUBLICATION NOT LATER THAN THE FIFTEENTH OF THE MONTH PRECEDING ISSUE. ADVERTISING RATES AND ANY OTHER INFORMATION WILL GLADLY BE GIVEN UPON APPLICATION. FORMERLY KNOWN AS THE PACIFIC COAST ARCHITECT.

THE EDITOR WILL BE PLEASED TO CONSIDER CONTRIBUTIONS, OF INTEREST TO THE PROFESSION. WHEN PAYMENT FOR SAME IS DESIRED, THIS FACT SHOULD BE STATED. TELEPHONE DOUGLAS 3424.

Editorial

Landscape Expert Describes Work

The July issue of *The Architect* completes a series of four editions, featuring the two California Expositions. This number will undoubtedly take its place as one of the most attractive in the set. It features the landscape of the Panama-Pacific International Exposition, photographs of which were selected by Mr. Donald McLaren, assistant chief of the Department of Landscape Gardening. Mr. McLaren has also contributed an article on the subject of landscape, which is certain to have value as a work of reference.

The study of landscape and the laying out of gardens is becoming more and more a subject of increased interest to the architect, who will appreciate the article presented by Mr. McLaren, as coming from a real authority on gardens. Most of our readers are, doubtless, familiar with the fact that the work of preparation for the gardens of the Panama-Pacific International Exposition, and the actual amount of area involved and material used, easily exceeds many times over the largest single project of similar nature that has ever been developed; and when one considers the remarkably short space of time required for the completion of same, the work takes on even greater importance.

Increased Interest in City Planning

A recent issue of the *Journal of the American Institute of Architects* features the city-planning idea, describing and illustrating in most interesting manner, city-planning in several of the large cities of this country and abroad.

Philadelphia is one of the foremost American cities in the scope and character of such projects. A revision of the present system of thoroughfares is under way on an extensive scale in Philadelphia. A primary net of main traffic thoroughfares of 88, 108 or 148 feet has been laid out to collect and carry the heavy general traffic. Photographs of the existing improvements of that city compared with views taken before the work commenced, surprise one at the apparent ease with which such improvements can be developed, and of the unmistakable increased property values resulting thereto.

The city-planning idea has taken a great hold on public-spirited officials and citizens of this country, and it is certain that the scope of this kind of work will be greatly enlarged within the coming few years. Not only will it embrace the laying out of new communities, but one of its chief causes will be for the beautification of our older cities; the abolishment of public nuisances of long standing and the development of locations best suited by nature for certain environment and surroundings.

The streets of too many of our cities are severe hardships, and with a little thought and work along city-planning lines, a tremendous amount of good can be accomplished.

City planning is not all work for the engineer, although the members of the latter profession have been largely concerned in the development of the idea during recent years. Considerable of the actual work must fall to the lot of the architect, and it is especially important that greater publicity be given to various methods of city planning.

It appears that one of the greatest drawbacks in the development of the idea in this country has been the vacillation of the courts in determining compensation for private owners deprived of property rights. It will be impossible for such a state of affairs to continue, and it is apparent that a more broad-minded policy has been agreed upon.

City planning has ceased to be a fad, and that it can no longer be considered merely the dream of those with esthetic ideals, is apparent in the action of legislators and other officials.

Recently Governor Johnson of California signed a bill, which provides for the establishment and maintenance of city planning commissions in this State. These boards will work in conjunction with the municipal authorities in an advisory capacity. It is to be hoped that men will be selected who will enter this work for the practical ability they possess; and this seems assured inasmuch as members of these boards are to act without pay. In intelligent planning lies the hope for the permanence of property values in any city. This fact is recognized by real estate men, who are urging that tracts of land no longer be laid out on the "gridiron" plan. This plan will give the most lots, but will not bring in the most money.

With the detrimental and objectionable features eliminated, and in consequence involving less hardship on behalf of city-planning committees and commissions, there will be a greater application of this form of civic improvement, with possibilities that will astonish. The work will provide for an increased number of parks, public buildings, beautiful

promenades, and other landscape features, besides solving traffic and other problems of physical character. But there must be less antagonism to the plan on the part of private interests.

Kansas City has been able to condemn the grounds for its great park and boulevard system because the people have been solidly behind the projects as they come up. It has been said that the people of Kansas City are better citizens for the beauty they create in their midst. When these people feel the need of new traffic arteries or parks, they proceed to build them, regardless of cost.

Future subdividers, having plats of irregular topography, will not fail to take advantage of unusual chances offered for the creation of winding streets and lots with a variety of shape and contour. ♣ ♣ ♣

Announcement has been made by a special committee of the American Institute of Architects, formed for the purpose of making arrangements for a meeting in San Francisco of the executive committee, that matters have progressed most satisfactorily, and that the trip will be made in September.

The committee has arranged for two special cars and anticipates with confidence the filling of a special train.

While in San Francisco there will undoubtedly be some sort of an informal convention of the members of the Institute, during which papers will be read and general matters discussed.

Present indications are to the effect that the chapters in the territory through which the excursion will pass, will plan to entertain the visitors on an extensive scale, and it appears as though the excursion and meeting in San Francisco will prove to be one of the most memorable events in the history of the Institute.

View of portion of South Gardens, showing use made of Tulips (Bonton d'Or) and Yellow Pansy carpet
Panama-Pacific International Exposition
John McLaren, Chief Landscape Gardening

Landscape Gardening at the Exposition

By DONALD McLAREN
ASSISTANT CHIEF OF THE DEPARTMENT OF LANDSCAPE GARDENING

The landscape work in connection with the adornment of the grounds of the Panama-Pacific International Exposition may be said to have commenced with the formation of the Architectural Commission in 1911, prior to which time Mr. John McLaren had been appointed by the directors of the Exposition as its landscape engineer.

At this time general plans covering the main exhibit section of the Exposition were formated and a general scheme of planting outlined, due consideration having been given to our climatic conditions and the aspects of the various courts and gardens which it was proposed to install.

In March of 1912 the work of collecting the tremendous number of trees and shrubs necessary to carry out such a comprehensive scheme was started by sending out competent men throughout all the bay counties and the cities of San Francisco, Oakland, Berkeley and Alameda, with a view to locating large specimen plants.

As soon as these had been located, and as they were, in most cases, donated by their owners, they were side-boxed preparatory to removing them to their permanent quarters.

In this connection it might be interesting to note how these large palms and plants of various descriptions were treated in order to move them successfully, as they have been done. The trees were first side-boxed and after the side roots had been cut, three inches of space was allowed between the balls of the trees and the sides of the boxes. This three inches of space was filled with good surface soil, which was well tamped in, in order to start side-root action, after which the plants were mulched and given good care with plenty of water for a period of from four to six months, when the tree was ready for moving to the Exposition grounds. Most of the boxes were from three to six feet square on the sides and two and a half to four feet in depth.

Following this in April of the same year a temporary nursery was established in Golden Gate Park, and in November of 1912 a permanent nursery was established at Tennessee Hollow in the Presidio Reservation, where six greenhouses, together with the necessary potting sheds, heating plant and a large lath house was established and the small plants moved from the temporary nursery in Golden Gate Park.

At this time it may be interesting to state that the eucalyptus and acacias which are seen adorning the grounds were only about twelve to eighteen inches in height and were growing in small flats, each of which contained approximately one hundred of each variety. These plants were placed in boxes and at the time they were set out, approximately two years afterwards, they had attained a height, in the case of the eucalyptus, of from twenty-five to thirty feet and the acacias of twelve to fifteen feet. The same treatment was given to the different varieties of hydrangeas, marguerites, fuschias, etc., so that it was assured at the time of the opening of the Exposition that fine specimens of all these varieties would be on hand for the permanent planting.

The first half of this year was also devoted to the preparation of planting plans and detailed estimates covering all the courts, gardens and buildings of the Exposition.

During the same year the various nurseries throughout the State and Coast were visited with a view to obtain all the necessary trees and shrubs which might be useful in the work, but it was not until June, 1913, that the work of moving the large plants to their permanent stations on the grounds was started. From then on and continuing throughout the summer and autumn approximately seven hundred large cypress and eucalyptus were moved from the Golden Gate Park and the Presidio to their permanent places on the Exposition grounds, these plants ranging in height from thirty to thirty-five feet.

The first work consisted of the formation of the four large groups in the South Gardens. Prior to this, however, the grounds around the Service Building were planted up, but this work, however, was formed of trees of a smaller size.

During the autumn of 1913 the majority of the large palms which were designed to form the Avenue of Palms were side-boxed. This avenue consisted of 350 palms formed by placing them twenty feet apart and spacing alternately Phoenix canariensis (California date palm) and Washingtonia robusta (California fan palm), the majority of which were shipped in from Niles during the spring and summer of 1914.

The first actual planting around the buildings was started in April of 1913 at Machinery Hall, and formed a portion of the Avenue of Progress, and from then on this work was continued until completion around the various buildings.

Owing to the various climatic conditions and aspects throughout the Exposition grounds abundant opportunity was presented to the landscape engineer to utilize a varied class of plants. Some of the situations were very exposed, while others provided abundant opportunity to use plants of a more tender nature. As the Exposition opened and closed in midwinter it was deemed necessary to use evergreen trees and plants throughout.

The Exposition being in California, it was naturally expected that a blaze of color would be maintained throughout the period of the Exposition. Our native wild flowers being all brilliant in color, it was decided to open with a blaze of yellow, so far as possible, to which end the tremendous areas of the South Gardens were planted with yellow pansies, daffodils and yellow tulips (Bouton d'Or), in which connection it might be interesting to note that in the South Gardens were planted two hundred thousand pansies, two hundred thousand daffodils and two hundred thousand tulips. These are followed by a planting of two hundred thousand pink begonias (Erfordii).

The Court of Flowers was made brilliant by the planting of 50,000 yellow pansies, a like number of red anemones (Anemone fulgens), and a like number of red tulips (Gesneriana spathulata major), to be succeeded by 50,000 red begonias (Crimson bedder).

It was designed in each case that a succession of flowers would be maintained until June, the idea being that in the case of the South Gardens the succession would be daffodils, followed by tulips; while in each case a continual show of yellow pansies would be maintained, with the pansies carrying through all the period in the form of a carpet.

In the Court of Abundance, while a continuous succession of color in the beds was maintained by the use of Viola cornuta as a bed, the first brilliant coloring being given by the use of hyacinths (Gertrude), followed by red tulips (Clara Butt), the main feature of the court consists of planting on the sides of 120 Italian cypress twenty feet in height, 240 Irish yews four to five feet in height and sixty orange trees, these orange trees approximating twelve to fourteen feet in height and ten feet in diameter.

Contrary to what might be generally supposed, these plants were brought from Cloverdale, were delivered in December of 1914, and were in full bearing at the opening of the Exposition. The plants had been side-boxed in the spring of 1914, were carefully cared for, well mulched and well watered throughout the summer and up to the time of their lifting. The plants were of such size that only two could be put on an ordinary flat car. The bunches of

fruit were of necessity very carefully tied up in all cases in order to insure their safe arrival at the Exposition grounds. These plants, it may be stated, have done remarkably well, and are at present in full blossom, their odor forming quite a feature of the court, especially during warm summer evenings.

Naturally in the treatment of such a tremendous acreage and with such varied conditions, abundant opportunity has been furnished both for formal and natural treatments.

A very fine example of the natural treatment was provided by the architect in connection with the planting up of the lagoon in front of the Fine Arts Building. Undoubtedly in no other Exposition has such an opportunity been offered to the landscape engineer for natural treatment.

Here it was endeavored to form a natural lagoon or lake with inundations, capes and bays such as are found in our natural mountain lakes. This treatment fitted in naturally with the general conception of the Fine Arts Building, as seen by the architect, and has been most successful, in fact, throughout the planting, in connection with the Fine Arts Building, has seemed to fit in most naturally with the building, the overhanging gardens especially being very effective.

One of the greatest problems presented to the landscape engineer was a formation of a background for the South Gardens and the formation of a main entrance.

This has been obtained by the use of a formal double hedge twenty feet in height and eight feet in diameter, the main entrance being thirty feet in height, the hedge being clothed with Mesembryanthemum spectabilis, planted in boxes, the boxes being six feet long, two feet wide and two and one-half inches deep. These boxes were filled with soil, the soil covered with a wire mesh and the mesembryanthemum cuttings placed therein. The boxes were put on edge and nailed on to a frame work after the plants had been thoroughly established and growing. This hedge is 1150 feet in length and is watered automatically by a pipe running along its top. It may be interesting to note that there are 8700 boxes of this plant; the work in connection with the preparation of which was quite extensive, as may be readily imagined.

The Court of Four Seasons, which was the first of the courts to be planted, from a landscape point of view is our most stately court, the court proper being distinguished by its planting, which is almost entirely of gray, the plants consisting of eucalyptus fifty feet in height, old olive trees twenty-five feet high, made more interesting by their old gnarled stems, also by planting of Laciendra macrantha, Pittosporum crassifolium and other gray foliage plants.

The Court of the Universe is distinguished by a planting of seven thousand rhododendron hybrids in the main court, which are at present being replaced with Hydrangea hortensis.

In order to estimate the extent of this work, it should be borne in mind that these plants in each case were all established in boxes from 12x12 inches to 20x20 inches in size.

The fore-court leading to the Court of the Universe was planted with bright red azaleas from Japan (Hinodogiri), which is being replaced with red geraniums.

The Venetian Courts on the east and west of the Court of the Universe were treated with evergreens of variegated as well as green foliage, and have been most effective.

In one case dwarf conifers were used throughout, while broad-leaved evergreens were used in the other court. Naturally, of course, all of the courts were treated with small flowering annuals of brilliant coloring.

In the planting of the California Building it was endeavored to utilize so far as possible only native California plants. Free use was made of the Monterey cypress, Sequoia sempervirens, Sequoia gigantea, Thuya gigantea, Libocedrus, etc., in addition to which a small cactus garden was created, while native California bulbs and flowering plants were used for a ground covering.

A wonderful opportunity was presented by the preservation of the old cypress hedges which had been planted years ago in connection with an old garden. In the original scheme it was designed to build the building around this hedge, thereby forming a patio. Inside of the hedge has been created a duplicate of the "Forbidden Garden" in the Old Mission Santa Barbara, which, with its pool and many flowering plants, has been most attractive.

For formal specimens throughout the corridors and formal garden work Acacia latifolio and Acacia lophanta were utilized, the plants being from three to twelve feet in diameter of head as required.

Beds of Rhododendrons in Variety, Court of the Universe. Acacia Latifolia utilized in place of Bay Trees
Panama-Pacific International Exposition
John McLaren, Chief Landscape Gardening

The Home of Redwood

The purpose of the Home of Redwood at the Panama-Pacific International Exposition is to show just how beautiful redwood is when properly treated, and to bring together under one roof authoritative examples of the many and diversified qualities of this remarkable building material.

All the lumber used in the construction of the Home of redwood, except the floors is redwood. The redwood, technically called Sequoia Sempervirens, is one member of a distinct and unique family of trees, the Sequoia Gigantea, or Bigtree, being the other species. The Sequoia Sempervirens is found only along the fog belt of the California coast, extending in a strip from ten to thirty-five miles wide from the Oregon line on the north down into Marin County, with a few scattered groves of small commercial importance as far south as Monterey.

The Redwood tree grows to a height of 150 to 300 feet with a diameter from three to fifteen and even twenty feet at the base. The trees grow very close together and will average from 75,000 to 100,000 board feet to the acre. The record yield per acre is 1,000,000 board feet.

Largely on account of lack of transportation facilities redwood has been little known outside the Pacific Coast territory, but with the recent completion of direct rail connection this lumber will soon become one of, if not the, most important of building woods.

Unusual Qualities of Redwood

The imperviousness of redwood to decay has long been known, and therefore its use by the home builder for foundations is not only natural but advantageous. Homes in Humboldt and Mendocino counties were built on redwood foundations as long as fifty years ago, and the original sills are at the present day as sound as when first laid down.

The weather-resisting qualities of redwood, even when unpainted, are proverbial and make it pre-eminent for exterior use. Barns erected in Humboldt and Mendocino counties as early as 1855 were sided with unpainted redwood boards and covered with redwood shingles and shakes, none of which today show the slightest deterioration from exposure. The Russian Church erected at Fort Ross, California, in 1811, was built entirely of hewn Redwood, and although the building itself was completely wrecked by the earthquake in 1906, the redwood itself is as sound today as when the trees from which it was hewn were felled.

The fire-resisting qualities of Redwood are well known, and no forest fire, no matter how severe has ever destroyed a redwood forest or killed a sound mature redwood tree. In the great San Francisco fire of 1906, this characteristic was put to a most severe test, and while it is not claimed that redwood will not burn, it burns more slowly than any other wood, and when saturated with water, hardly at all.

Redwood for interior finish gives the home builder a wider range of possibilities than any other wood. He has in the first place all of the merits of any other, except the hard woods; in addition to which the entire absence of pitch renders it especially adaptable to paint or enamel. Again the great beauty and varieties of the grain permit effects obtainable with no other wood, especially in the natural finish, or when combined with the use of paint or stain.

The Home of Redwood embodies all these uses of redwood.

Its foundations, underpinning and floor joists are of redwood because they will not rot. Its entire frame is of redwood because it is in every way suitable for this purpose and is fire-resisting. The roof is covered with sawn redwood shakes and the sides with a novel combination of sawn redwood shakes and redwood beveled siding, because this material is everlasting and gives a greater protection than any other wood in case of fire.

The interior finish, with the exception of the floors, is of redwood because the width of panels and extreme beauty and varieties of grain are characteristic of this wood alone. The surface finishes are beautiful and vary from the simple white of hygienic utility to tones of exquisite depth and richness.

In fact this residence shows in finished form the uses of redwood in house construction wherever it is suitable. Attention is called to the fact that the only places in the entire structure where redwood is not used are the floors and steps. Here oak is used for the interior and Douglas fir for the exterior.

Specifications of the Home of Redwood

In the limited space available it is not possible to give full specifications governing the material and workmanship represented in this exhibit, but to those who are desirous of duplicating the Home of Redwood, either in whole or in part, full information and complete list of materials will be furnished upon request.

The foundation, underpinning, floor joists, and frame, are all built of merchantable redwood.

The entire building is sheathed, inside and out, with surfaced one inch No. 2 Common Redwood, building paper being put next to the sheathing and immediately underneath the exterior and interior finish.

The roof is covered with sawn redwood shakes dipped in Cabot's Shingle Stain before laying.

The sides are covered with a combination of sawn redwood shakes and a special pattern of clear, dry redwood siding.

The bathrooms, kitchen, pantry and servants' rooms are finished in select dry tongue and groove redwood.

The other rooms are finished in clear dry redwood panels as shown in the accompanying photographs.

Formulas for Interior Finishes

In general, the proper treatment of redwood surfaces is as follows:

After the wood is thoroughly sanded and cleaned smooth, apply a coat of white shellac; then mix pigment of whatever color desired with white lead or zinc and boiled oil, thinning the mixture with turpentine if necessary, applying with a brush. Immediately thereafter, while wet, wipe with a soft rag, cheesecloth or dry brush, leaving a thin film of color and allowing the redwood grain to show through uniformly.

This process may be repeated until the desired tone is obtained uniformly, allowing previous coats to dry thoroughly first. After a satisfactory uniform finish color has been established then wax with two coats applied hot and rubbed to surface finish desired.

Any color tone may be produced depending upon the pigment, mixture and quality of workmanship.

The specific finishes shown in the various rooms were obtained through these formulas:

Reception Hall: Two coats white shellac, thinned with grain alcohol applied with a brush and then rubbed with beeswax.

Living Room: Two coats white shellac, thinned with grain alcohol applied with a brush and partially rubbed off with a soft rag (cheese cloth) and then rubbed with beeswax.

Dining Room: Two coats white shellac, thinned with grain alcohol applied with a brush, one coat of walnut brown pigment applied with a brush and partially rubbed off with cheese cloth and then rubbed with beeswax.

Butler's Pantry: One coat white shellac, thinned with grain alcohol applied with a brush, two coats white lead paint and one coat of white enamel.

Kitchen: Same as Butler's Pantry.

Servants' Quarters: Same as Butler's Pantry and Kitchen, except that the third coat is paint instead of enamel.

Shower Bath: Same as Butler's Pantry and Kitchen.

Family Bath: Same as Butler's Pantry and Kitchen.

Bedchamber "A": Two coats white shellac thinned with grain alcohol applied with a brush, two coats of pinkish brown pigment applied with a brush and partially rubbed off with cheesecloth and then rubbed with beeswax.

Bedchamber "B": Two coats white shellac thinned with grain alcohol applied with a brush, two coats mauve colored pigment partially rubbed off with cheese cloth and then rubbed with beeswax.

Sitting Room: Two coats white shellac thinned with grain alcohol applied with a brush, two coats golden brown pigment applied with a brush and partially rubbed off with cheese cloth and then rubbed with beeswax.

Cost of Building

Many questions have been asked relative to the cost of the "Home of Redwood" and as to what the building could be duplicated for in various parts of the United States.

This is a question that is very difficult to answer, not only because the cost of the raw material differs greatly in different sections, but also the cost of the labor is much higher in some localities than in others. For example, in San Francisco labor is probably higher than in any other place in the United States while the cost of the redwood lumber would be less; yet it is the labor that really counts.

In a general way it can be said that it costs no more to build a home out of redwood than any other soft wood, and it costs considerably less than some soft woods such as white pine. Redwood compares favorably in price with red cedar and cypress, is a little higher than Douglas fir and yellow pine and is less expensive than either Eastern or Western white pine. A building of the type of the "Home of Redwood" may be made inexpensive or not in accordance with the amount of work which the owner wants to put into it. It is about the same thing as discussing the relative price of two suits of clothes. The cloth in either suit is not worth to exceed $12.00 or $15.00, yet one tailor might charge $30.00 for the article and another $65.00 in accordance with the skill and workmanship shown.

We give below an approximate idea of the cost of the "Home of Redwood" as erected here:

Lumber and Material (excepting millwork)	$ 2700.00
Millwork, including all Interior Finish, Gutters, Porch Rail, Windows and Doors	2500.00
Labor	1400.00
Plumbing	850.00
Painting and Finishing	$ 1375.00
Electrical Work and Fixtures	450.00
Tiling	285.00
Incidentals	500.00
Total	$10,060.00

Redwood Exhibits at the Exposition

In order that a good idea may be obtained of the great variety of uses of redwood as shown at the Panama-Pacific International Exposition the following partial list of exhibits where redwood is used is given:

Forestry Court: The Home of Redwood; Lumbermen's Building and House of Hoo-Hoo; White Pine Home, redwood shingled roof; The Brick Home, interior finish; Northeast Corner Avenue of Nations and Avenue of States.

California Building: Humboldt County, Mendocino County, Sonoma County, Contra Costa County, finish in private offices, W. D. Egilbert, Commissioner-General.

Machinery Hall: Redwood Manufacturers Company, tanks, banded pipe, continuous stave pipe; Randall Elevator Door Control Company, sashes, doors and door frames; National Mill & Lumber Company, tanks and pipes.

Machinery Hall on East Side: Redwood Manufacturers Company, redwood tower and tank, supplied by redwood stave pipe; Leaver Manufacturing Company, office and railing of redwood finished in silver gray.

Mines Building: Pacific Tank and Pipe Co., redwood tanks, machine banded and continuous stave pipe; Redwood Manufacturers Company, tanks and towers.

Stock Barns: Redwood Manufacturers Company, silos; De Laval Dairy Supply Co., silos; McClure, silos.

Agricultural Building: Petaluma Incubator Co., Victor Incubator Co., Electric Hatch Incubator Co., Romeyn B. Hough, wood curios.

Hawaiian Building: Fish tanks.

Panama Canal Concession: Tanks supplying the water.

Palace of Liberal Arts: California Redwood Burl Co., Redwood novelties.

California Building and Panama Canal Concession: California Curio Co., Redwood novelties.

Pure Foods Palace: United States Government Fish Hatcheries, Anderson, Barngrover Company.

Palace of Horticulture: Bean Spray Company, Anderson, Barngrover Company.

Mines Building: The Dorr Cyanide Machinery Company, tanks; W. P. Fuller & Company, paint tanks.

In United States Government Mines Exhibit: Merrill Metallurgical Co., redwood solution tanks; L. C. Trent Engineering Co., tanks.

Redwood is used largely in the construction of the State and Government Buildings among which may be listed:

Virginia Building (reproduction of Mount Vernon): Redwood siding and shingle roof.

New Jersey Building: Redwood siding and blinds.

Swedish Building: Fancy redwood shingles.

Other uses of redwood are shown by the following instances:

The booths of majority of exhibitors throughout Exposition are made of redwood.

The permanent sewers on part of grounds owned by the United States Government.

Much of the drainage pipe in various exhibit palaces.

The boxes for hedges for south boundary of Exposition grounds.

Famous Mesembryanthemum Hedge, forming Main Entrance and South Front of Panama-Pacific International Exposition.

John McLaren, Chief Landscape Gardening

Characteristic Natural Grouping Surrounding the Lagoon, in Front of the Fine Arts Building — Panama-Pacific International Exposition

John McLaren, Chief Landscape Gardening

Showing Treatment of Palms on Palm Avenue by the use of Nasturtiums and Passion Vines — Panama-Pacific International Exposition

John McLaren, Chief Landscape Gardening

Glimpse of Fine Arts Lake, showing Specimen Acacia Melanyxolon and Clumps of Aganapanthus

Specimen Column of Trained Eucalyptus Globulus, Court of Four Seasons

Panama-Pacific International Exposition
John McLaren, Chief Landscape Gardening

Treatment of Sunken Garden, South of Varied Industries Building, by the use of a Hedge of Veronica Buxifolia, Creeping Acanaea, Trained Acacia, Lophantha Acacia, Floribunda and Eucalyptus in Variety — Panama-Pacific International Exposition

John McLaren, Chief Landscape Gardening

The Home of Redwood — Panama-Pacific International Exposition

Louis Christian Mullgardt, Architect

Entrance Hall, "The Home of Redwood" — Panama-Pacific International Exposition

Louis Christian Mullgardt, Architect

West End of Living Room, "The Home of Redwood" — Panama-Pacific International Exposition
Louis Christian Mullgardt, Architect

Dining Room, "The Home of Redwood" — Panama-Pacific International Exposition
Louis Christian Mullgardt, Architect

Sitting Room, "The Home of Redwood"

Music Room, "The Home of Redwood" — Panama-Pacific International Exposition
Louis Christian Mullgardt, Architect

Pennsylvania State Building — Panama-Pacific International Exposition
Henry Hornbostle, Architect

National Terra Cotta Society Building in Varied Industries Building

Interior View of National Terra Cotta Society Building — Panama-Pacific International Exposition

George William Kelham, Architect — Photo, Gabriel Moulin

Photo, Gabriel Moulin

Detail View Building of National Terra Cotta Society in Varied Industries Building
Panama-Pacific International Exposition
George William Kelham, Architect

Interior View California White and Sugar Pine Industries Building — Panama-Pacific International Exposition

The Brick Home — Panama-Pacific International Exposition

Spencer & Powers, Architects

Detail of Façade of the Brick Home — Panama-Pacific International Exposition
Spencer & Powers, Architects

The Message of Brick

There is always something fateful about a message. We may know it is coming; we may see the messenger from afar, but until the seal is broken and cheering news be found we cannot shake off that portentious feeling boding of ill. Advantage was taken of this fact by the man who invented the dispatch of a brick at the first head bobbing up in opposition. Even if it missed him it gave the rebel that portentious feeling which must account in part for the respect so generally shown to brick ever since that first eventful throw. It was so many ages ago that even the Chaldeans lost the record. But it is not of punitive things we would speak, to wit: the bats, but rather of promises in perpetuity of the perfect shelter of a home whose walls from ground to gable and throughout the sacred perimeter proclaim the symmetry and beauteous truth of brick.

If you have never thought that bricks have a language the same as flowers of spring and leaves of autumn, just lay aside these illustrated pages and go to that spot under the Presidio Heights where Massachusetts has reared her golden dome, eloquent of liberty; face the north where rise the mountains of Marin, eloquent of massive strength beyond the purple ebb and flow of ocean, eloquent of mystery; and there in the emerald foreground of peaceful sward your eyes will rest upon The Brick Home, eloquent of sacred pleasures of hearth and fireside.

The greatest proof of inspiration in the message of the Panama-Pacific International Exposition to the world is found in the responses from the remotest lands whose best productions have been sent to escape the ravages of insane war and to bring to peaceful lands messages eloquent of the beneficence of peace.

Right fitting also it is to note that this inspiration wrought upon the imaginations of some of our countrymen way back in Illinois to drop an ideal home into the midst of pretentious state edifices. Through the irony of fate it fell upon a plot assigned to, but relinquished by a war-torn State. The men who conceived the idea of The Brick Home were not slow to incorporate their enterprise under the name of Panama-Pacific Clay Products Association. In its Illinois charter the object of the association is stated to "Promote the use of clay products by publicity and, as a part of the initial campaign, to build a model, modern, low-cost, fire-resistant residence at the Panama-Pacific International Exposition."

The Brick Home — Panama-Pacific International Exposition
Spencer & Powers, Architects

It is perhaps too limited to speak of the message of brick in this instance. Look at the roof whose shingles are of clay. Even the fountain plays in its terra cotta way. The garden furniture, wall coping, partitions, walks, porches and terrace, kitchen, bath, lavatories, hearth and mantel—all are expressions of the art of the clay worker.

The President of the Panama-Pacific Clay Products Association, Mr. Herman L. Matz of Chicago, himself, carried The Message of Brick to the clay workers of California. He told how even organized labor through its Bricklayers, Masons and Plasterers International Union of America stood ready to contribute its share by uttering a sermon in masonry if we of the Coast would but write the words in clay eloquent. He told of how the brick makers and sellers of the East would raise moneys to publish the result to all the world of homeseekers, lovers and builders, so that by combined efforts the bible of brick would have added unto it a new chapter of revelations. He captured his audience.

Continued on page 40

Brief Outline of Weed Lumber Company Exhibit

WHITE AND SUGAR PINE INDUSTRIES BUILDING
PANAMA-PACIFIC INTERNATIONAL EXPOSITION—SOUTH GARDENS

BY C. X. WENDLING

Responsive to a request from the Editor of *The Architect* for some information on the subject of the special merits and value of California White Pine "Nocheck" Veneers and the new method of manufacturing Doweled Doors, I am pleased to offer the following general information.

An important discovery, as it might be termed, in the wood-working industry, is that of veneers and panels manufactured from California White Pine. In recent years veneers and panels have become the main material for artistic finish and the paneling of doors. While the hardwoods have filled to a great extent the demand, yet a greater demand has been made for a material easily secured and cheaper in costs, that would carry the grain and answer the same purpose as hardwoods. The main fault with the cheaper and lighter materials generally has been that after being stained, enameled or finished in any manner, the panels would check or split.

To meet the demand for a cheaper and lighter material the Weed Lumber Co., at Weed, California, experimented in veneers and panels manufactured from California White Pine with the result that they have produced a veneer or panel with beautiful grain that absolutely will not check, will produce a handsome natural finish or will take the stain of any other wood. It is especially adapted for enamels from the fact that it will always hold its face without checking, and show an unmarred surface so far as the action of the wood is concerned.

At the Panama-Pacific International Exposition these panels have been used for the interior decoration of the Southern Pacific Building, the office of Commissioner-General Egilbert, of the California State Commission. The White and Sugar Pine Industries Building and the Siskiyou County exhibit in the California State Building, and have caused extensive affirmative comment on account of the wondrous beauty of grain and perfection of surface and workmanship.

These veneers and panels should be given attention by all architects desiring a finish showing beautiful grain and a material that will not show imperfections from checking.

The panels are particularly valuable when used for enamel finish in hospital and other sanitary work, producing a perfect enamel surface with the application of two or three coats of enamel as it is a white surface or base in the natural state.

The success and popularity of these veneers and panels is vouched for by the demand from all parts of the United States and foreign markets. While the cost of this material is modest, on the other hand it is a perfect substitute for the more expensive woods and gives perfect satisfaction.

In this progressive age it is essential that the buyer should have the best at the lowest cost. This result has been achieved in the production of the white pine doors in this building, in that all the doors in the structure and those on exhibition are assembled by the new and advanced method shown in the illustration.

The one great difficulty experienced by door manufacturers has been (even when the greatest care is exercised in the manufacture) that of open joints after the door has been placed in warehouse or hung on the job. This difficulty has not only been the cause of claims for repairs or replacement, but generally ended in loss of customers. To obviate this has been the one great desire of the door

California White and Sugar Pine Industries Building — Panama-Pacific International Exposition

Interior View California White and Sugar Pine Industries Building, showing Wall Panels

manufacturer—in many cases it has been the waking thought and sleeping dream. Many ideas and ways have been devised, but they have been either too expensive to be effective, or have not proven satisfactory.

As is well known the old-time bench or hand furniture made by the cabinet maker, was built to stand the wear of years. The method of the old craftsmen was to cut a V in the tenon or dowel and insert therein a wedge, the tenon or dowel then being driven into the mortise or hole and firmly wedged, causing the sections of furniture to become absolute joints.

While this method is as old as the hills, the bringing of same to an up-to-date standpoint, whereby it could be handled in an economical manner in the manufacture of doors and furniture by automatic machinery, has been the brain work of Mr. C. E. Evans, General Manager, Weed Lumber Company, Weed, California.

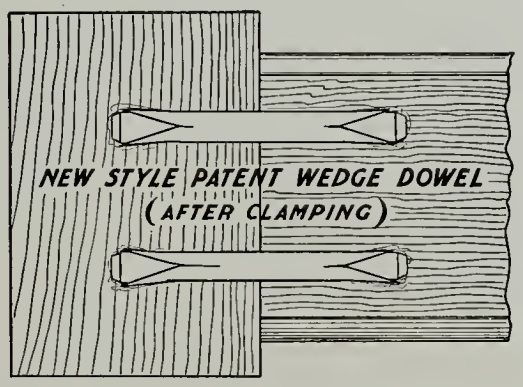
In a plant with a capacity of from three to four thousand doors per ten hours, Mr. Evans has succeeded in perfecting the method and the machines whereby same is put into effect, at practically no extra cost over the old method of common doweling.

In the old method of doweling doors, or that used by the general door manufacturer at this time, the hole is bored deep, to the end that the dowel might not come in contact with the bottom of the hole, thereby causing joint to open. The rule in gluing is that the glue is placed in the hole of the stile or rail and the dowel then driven in; this in many cases causes the dowel to push the glue forward, which would form in the pocket and become of no use in holding the dowel, thereby causing the dowel to be easily loosened, hence a loose or open joint.

With the new method of Wedge Dowel, the holes are bored short of the dowel, one end of the dowel is first wedged and fed automatically into the rail, the rail is then passed through another machine and the other end of the dowel wedged. In assembling the parts of the door in clamping device, the wedged ends of dowel come in contact with bottom of holes, causing a complete wedge at each end, and forcing the glue back around the dowel, thus making an absolute joint, similar to the old wedging method of the cabinet maker.

Not a single claim for open joint has been made since this method has been installed, during which time several hundred thousand doors have been manufactured by this process, shipped to the trade and used by the consumer.

Without doubt this is the most valuable improvement in the manufacture of doors since the beginning of the dowel method, both from the standpoint of manufacture, and the practical indestructibility of the door, and will apply equally well to the manufacture of furniture.



"If it is Wedge Doweled it is indestructible"

A feature of dominant value in this improvement is the fact that since the adoption of the dowel manufacture of doors by the American door manufacturer, we have been unable to dispose of our product in foreign countries, because they demand doors manufactured by the old and expensive method of mortise and tenon, preferably wedged. With the Wedge Dowel, however, this objectional feature has been overcome entirely, and without doubt the American door will again come in strong demand with our foreign trade.

Wall Surfaces of the Exposition

By A. H. MARKWART
ASSISTANT DIRECTOR OF WORKS AND CHIEF OF CONSTRUCTION—PANAMA-PACIFIC INTERNATIONAL EXPOSITION

Able critics have judged the exterior appearance of the entire Exposition from a color and texture standpoint to be one of great beauty. In adopting for the wall surfaces a treatment to give the effect of the famous Roman Travertine, that peculiarly beautiful stone found near the River Tiber, there was as far as expositions are concerned, a unique and original departure from the usual dazzling white plaster effects.

Consequently the entire exterior of the Exposition, instead of suggesting plaster and stucco, conveyed an impression of rare marble, soft in tone and color, and the stratified texture of its surface produced repose for the eye by day and by night. It had no distinct, sharp color, but may be described as having several warm tones of gray and pink blended together, all an integral part of the mixture.

While the architecture of the Exposition has many admirable features and has been the subject of favorable comment by all, it undoubtedly would not have created the impression which it did, had it not been a "color Exposition." It must be conceded that the Exposition was interesting not only from the architectural viewpoint but also from the texture and color of the exterior plaster.

Roman Travertine was first artificially represented in the new Pennsylvania Station in New York City by Mr. Paul E. Denivelle, the originator and supervisor of the Exposition plastic scheme. McKim, Mead & White, the architects of the structure, used the natural travertine for a decorative wainscoting in the passenger waiting room, but this material was too costly for use on the entire walls and vaulted ceilings of this room, and it occurred to them that a suitable imitation would make an agreeable substitute for the great portion of the wall area above the wainscoting. Mr. Denivelle, a happy combination of the artist and artisan, undertook this important work and carried it out successfully.

The work done in the Pennsylvania Station was in 1910 and captures the admiration of all who see it. Therefore, at the suggestion of Messrs. McKim, Mead & White, the Division of Works engaged Mr. Denivelle in position of Supervisor of Texture and Modeling in order that there might be assured a successful plaster exterior, with due regard to its practicability, originality, color and texture. In this capacity Mr. Denivelle carried out the plastic scheme and superintended the making of architectural models to the end that the proper interpretation was given to the architect's work, and by this arrangement all instructions to modelers were given through one source. Mr. Denivelle was attached to the Bureau of Building Construction and the Departments of Architecture and Color and Decoration, and co-operated extensively with the Department of Sculpture.

But there was a difference between the use of a few tons of colored cement plaster cast blocks over the comparatively limited interior wall area in the Pennsylvania Station and the use of a gypsum product on the wood-sheathed exterior area of all the buildings upon the Exposition grounds. When twenty-five to thirty thousand tons of material were to be used a widely different problem was presented. Experienced Exposition contractors pronounced the textured and colored exterior as impossible of accomplishment, and many of the Western gypsum mills looked unfavorably upon the proposal, so for a time the artistic success of the Exposition was threatened by the attitude of both of these necessary factors. However, Mr. Denivelle, fortified with the knowledge obtained by the solution of a similar problem, believed that the Exposition plastic scheme might be made successful if the plaster manufacturers could be interested. In this connection he succeeded in convincing Dr. Will L. Ellerbeck, the head of the Nephi (Utah) Plaster and Manufacturing Company, of the feasibility of the process. Dr. Ellerbeck's special technical training in the mineral earth industries and his extraordinary facilities from a mill operating standpoint made him a valuable adjunct to the scheme, and while the hope of anticipated profits may have spurred him on to some extent, it must be said in all fairness and without detracting from others, that his co-operation with Mr. Denivelle was a potent factor in bringing about the successful result.

The composition used for covering the exterior walls consisted of a specially prepared gypsum product colored at the several factories in accordance with formulæ furnished by the Exposition Company and manufactured in such a way as to be adapted particularly for exterior use. The tone and horizontally stratified treatment was carried through all architectural forms and surfaces, including all sculpture. Here and there a note of contrast was obtained by integral castings of columns in replica of red sienna or Numidian marble, or a Verde antique bronze and gold, but even here a harmonious relation was produced. By this method life and interest was given the vast wall surfaces. Where cast forms were not used, the plastic composition was applied directly to the grooved sheathing. All cornices, architectural columns and decorative ceilings were cast from moulds, and secured to the skeleton frame of wood.

All stucco on flat surfaces was two-coat work, the first coat being a base coat of chosen mixture (without color) with sand and fibre, the second coat being of a colored mixture with a suitable portion of sand and finished with the desired texture in imitation of the Travertine, as previously stated.

The same effect was carried out on all cornices and moulded surfaces, which were cast from the ready colored mixture. The procedure in manufacturing was to prepare glue moulds in the usual manner. After the mould had been properly prepared, the first step was to lay on, in two operations, the light and dark veins of liquid, colored composition. This was put on by means of specially constructed multiple nozzle veining cans. The second step was to lay over the veins the semi-dry or slightly damp mixture; the veins forming the stencil between which the semi-dry or slightly damp mixture showed as variegated indentations. This mixture was just wet enough to take on a permanent set, and then a thick backing of the same mixture, but in a more liquid condition, was applied.

To make up the full thickness, the mould was further backed up with uncolored mixture and reinforced in the usual manner with hemp dipped into the liquid mixture, producing finally a cast varying from three-quarters of an inch to two inches thick. In the process, the stratifications were laid on the glue mould in such manner as to meet the conditions of having all the veinings of the cast running horizontally. This was true, particularly of the columns, raking moulds, cornices and similar parts.

The net result after the removal of the glue mould was a cast showing stratifications, color veinings and variegated indentations. The indentations occurred at all points where the semi-dry mixture was placed on the mould, the whole giving the general effect of the chemically precipitated stone which it was intended to imitate.

Most of the hardwall of the plaster exterior was "Nephi," and this was made of gypsum rock from the Nephi (Utah) quarries. This rock is of exceptional purity and has ideal physical qualities, being dense and non-crystaline. In the mixture of hardwall for Exposition purposes this rock was properly calcined and there was added to this material a mixture of asbestos fibre, wood pulp and silicate of alumina to control volume changes, to induce plasticity and to make it capable of resisting moisture. The formula from which this was prepared was worked out by Dr. Ellerbeck. To each ton of this was added American raw sienna or

French ochre, generally the latter, burnt sienna and raw umber to secure the color prescribed by the Exposition. The total amount of color was thirty to eighty pounds per ton, depending on the color values of pigments, which varied, American color being particularly weak, and on the use to which the final mixture was to be put. The Nephi Company supplied approximately 20,000 tons of material for all Exposition purposes, which include l scratch coat, finish coat, colored casting for both staff and statuary, and this required over 500,000 pounds of pigment.

The formulæ furnished by the Exposition Company to the manufacturers of hard wall plaster were in two forms, one for plastic Travertine and the other for casting Travertine. The prepared material was used by the contractor in accordance with instructions received from the Exposition's demonstrator, who, in turn, kept in close touch with the factories, so that changes in formulæ could be made to accommodate the varying color of the original product. The Exposition made tests of every car of plaster delivered to the grounds, which insured a uniform color, for, in the event of a shipment of a car of plaster which was off color, either other colored matter was added to bring it to the required shade, or, if this could not be done, it was rejected.

The following information refers to the base formulæ used in connection with the material manufactured at the mills of the several companies.

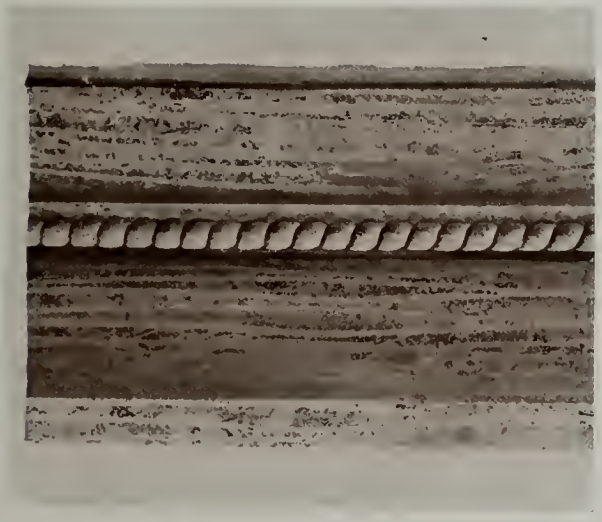
The formulæ furnished to a mill for plain wall surfaces consisted of three dry pigments and fibred hard wall plaster, as follows:

	Lbs.	Ozs.
Turkey raw umber	2	5
Italian burnt sienna	1	9
French ochre	3	8¼
*Fibred exterior hardwall	500	..

*Sometimes this was unfibred.

This came dry from the factory and the contractors added one-half part of sand to one part of the dry mixture, plus 93 pounds of hydrated lime to 500 pounds of hardwall, and the required amount of water. This plastic mixture was applied to the walls in the usual manner, over the scratch coat of fibred uncolored hardwall, as elsewhere noted, and was stippled in lines with special hand brushes and then troweled to a hard, smooth finish, leaving the stratifications desired.

Another formulæ was furnished to the factories for the material which was to be used in casting the staff. This formulæ was based on the use of 16 pounds, 11.5 ounces of color, and 500 pounds of casting plaster, as follows:



Cast Travertine. Note dark and light veins and granulations.

	Lbs.	Ozs.
Turkey raw umber	3	12
Italian burnt sienna	1	15½
French ochre	11	..
Casting plaster	500	..

Cast Travertine, with Ornamentation.

This was the body mix which was shipped from the mills direct to the grounds and used by the plaster contractors in four different ways in the manufacture of the staff. The material for the light veins was mixed by the contractor from the body mix above referred to in accordance with the following formulæ:

	Lbs.
White casting plaster	200
Hardwall plaster	70
Body mix colored casting plaster	270

and the material for the dark veins as follows:

	Lbs.	Ozs.
Body mix colored casting plaster	100	..
Raw umber	..	15

The semi-dry was made up of the body mix with an addition of an amount of sand to produce the desired granulations, while the wet mixture was the same without sand but with more water to produce the finished cast face. This liquid mixture, reinforced with hemp, was used to bring the cast up to the required thickness, as elsewhere described.

In conclusion it may be stated that while Mr. Denivelle was not engaged as either an artist or architect, nor as a sculptor, yet he must be mentioned among the first of those who contributed to the artistic success of the Exposition. His studies at the Paris Louvre and the instructions he received at the Geneve Beaux Arts in design and modeling, together with his extensive practical experience in New York, peculiarly fitted him to perform the work in question. It is conceded by all that the rare quality of the artificial Travertine dovetailed admirably into the beautiful color scheme of Mr. Jules Guerin. An engineer may be presumptious to offer an artistic appreciation, but it appears to the writer that here, there and everywhere about the Exposition the suggestions of Mr. Denivelle were of great value, for there was an intimate relation of his work in the fountains, the vases, the lighting standards, the modeling and the sculpture and here and there in the color scheme. And that he played an important role in assisting those in charge of special features cannot be denied, and this assistance is no doubt appreciated by the architects and those of the Division of Works, perhaps more than by the general public.

Modern Use of Faience Floor Tile

The faience floor in the New York State Building, Panama-Pacific International Exposition, consisting of four thousand feet of colored, matte glazed tile, is the conception of Mr. C. B. Meyers, of New York, and was executed after his ideas by the California China Products Company, of National City, California. To Mr. Meyers must be accorded the credit for this, the most modern use of the newest type of heavy matte glazed tile, in floor work. Up to the present time only a few of the more advanced architects have grasped the wonderful possibilities and appreciated the superior beauty of this material over all others for fine floors, but signs are not lacking that it is destined shortly to displace the time-honored marble and ceramics in the favor of the many who are awakening to its excellence.

The type of glaze used was developed specially for Mr. Meyers by the California China Products Company as the result of a long course of experimentation, and represents the most modern adaptation of this material to floor work. It is an extremely heavy, thick matte glaze, considerably harder than glass, with a dull, velvety surface which is almost totally non-reflecting, thus eliminating all unpleasant "high lights" which might result from the use of ordinary matte glazes. An irregular water mark adds a pleasing texture. Mr. Meyers' requirements were unusually severe, extending even to the control, in size and shape of this water mark, and hundreds of glazes were developed and discarded before the desired result was obtained. The beauty of the effect achieved, however, has certainly justified the time and labor expended.

The main body of the floor is composed of 6x6-inch tiles of a peculiar luminous buff color; the body of the panels is a dull grayish buff, and the borders are made up of three rows of 6x2-inch tiles, the central row being the same buff of the main floor, and the outer rows of a blended brown and green. A large amount of the latest type of decorative outline work is also used, as seen in the entrance panel bearing the words "New York" and the three circular plaques inset in the central portion of the floor. The largest of these bears the coat armor of the State of New York in correct heraldic colors, while the two smaller disks on either side bear the American eagle, perched on the starred and striped shield.

These disks represent perhaps the highest type of modern tile work, and at the conclusion of the Panama-Pacific Exposition, they are to be removed to New York and placed

Façade New York State Building — Panama-Pacific International Exposition
Charles B. Meyers, Architect

Beautiful Coat-of-Arms in New York State Building — Panama-Pacific International Exposition
Executed in tile by California China Products Co.

in the State Capitol at Albany. They are bordered by special radius tile in gray buff, lavender gray, and dark and light green, the main design being picked out in dark green on a light sea-green background. The inner portions of the disks, bearing the eagles and coat of arms of New York State, represent the constant labor of an expert in glaze work for a period of over a month, the glazes of course being painted in by hand. In all this work the colors are shaded in order to give relief and depth to the completed design, though in some cases the delicacy of the shading is such as to escape casual notice, and is apparent only as an effect in the beauty of the plaque as a whole. For instance, in the coat of arms of New York, the sun's rays shade from dark golden yellow at the center to light golden yellow at the extremities; the sky shades from light blue near the sun to darker blue at the zenith; the water of the stream shades from light blue in the foreground to darker blue in the distance; likewise the robes and flesh of the figures, the ribbon and letters of the legend and many other details of the design are thrown into relief by delicate shading of glaze. In many cases four or five shades of a single color were applied, and carefully blended at their juncture by hand in order to get the effect desired. The same processes are apparent in the bodies of the eagles and other details of the smaller plaques, representing in all a very large amount of the most careful and expert hand workmanship. We are informed by the California China Products Company of an interesting detail of the production of these plaques.

All this decorative work, consisting of about two hundred square feet and over one thousand pieces of tile, was glazed at one burning of their "gloss" kiln in order that no variation in firing conditions might affect the delicate shading. So great was the care used that every piece emerged perfect from the firing, with the exception of one cracked tile! This is a truly remarkable achievement, as any tile maker can testify, in handling the most delicate and complicated decorative work in matte glazes.

The soft blend of colors and harmonious and restful design of this floor make it a particularly pleasing example of the use of glazed tile, and the excellent foothold afforded, with entire absence of the slippery characteristics of marble and ceramics, will be a surprise to those who have feared that a glazed tile meant an unsafe floor. Much of this effect is due to the peculiar velvety surface of the glaze employed, which has been adopted by the California China Products Company as their standard floor glaze.

Very careful tests made over a number of days, and during those hours when the New York State Building is most crowded, absolutely prove that this floor is non-slip in the highest degree, and that such glazed tile floors are admirably suited for railroad stations, schools and all public buildings.

The permanent cleanliness of these colored glazed tile floors, both actually and in appearance, is beyond that of all other flooring material. Dust, mud or grease mop off easily, leaving the tile as clean as when first laid.

Such colored glazed tile floors are known to have withstood heavy wear in Italy and Spain for 100 years.

Lumbermen's Building and House of Hoo-Hoo

By A. B. WASTELL
EXECUTIVE SECRETARY, BOARD OF GOVERNORS

Lumbering with its allied interests represents the most important industry of the Pacific Coast and its activity is closely interwoven with the general prosperity of this region. Our forest products rank next to agriculture in value, while its industries employ many thousands of men and have dependent upon them hundreds of towns. The coastal States and Idaho contain five-elevenths, nearly one-half, of the standing timber of the entire United States, and represents a tremendous factor in our prosperity. Notwithstanding, the commissioners of the Panama-Pacific International Exposition did not include a forestry palace among the Exposition buildings, and the creation of a representative forestry building devolved upon the lumbermen of the Coast, who with pride in their trade, wanted the lumber business properly represented at this great Exposition. Subscriptions to a fund were made and Architect Bernard R. Maybeck was selected to design a structure that should embody a threefold purpose; the general exploitation of the Pacific Coast commercial lumber in a dignified but attractive presentation of its use and beauty, hospitality to visiting lumbermen and the promotion of sociability among the local lumber fraternity. Mr. Maybeck evolved from his love of the forest and his devotion to the potentialities of wood finished in the natural, in collaboration with his associate, Mark H. White,

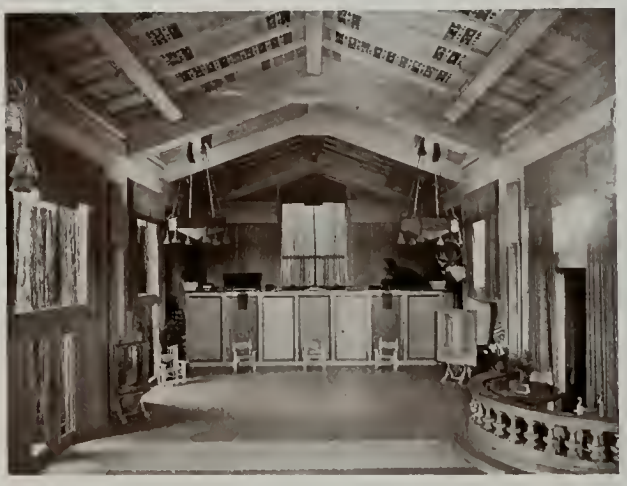
engineer, the charming forestry building presented on these pages as the Lumberman's Building and House of Hoo-Hoo. Hoo-Hoo is the national social organization of the lumbermen and the black cat is the emblem of this society.

The building, situated amid the most beautiful surroundings, in Forestry Court, South Horticultural Gardens, is flanked by arc pergolas made up of redwood saplings and logs in a charming setting of forest trees, shrubs, ferns and vines. Dominating the court are two huge pylons, sixteen feet in diameter, forty feet high, built up of redwood bark in skillful imitation of actual trees whose tops have been broken off. The facade of this bark-covered lodge is made up of eight log columns and includes specimens of the eight commercial trees of the Coast, redwood, sugar pine and white pine of California, Douglas fir (Oregon pine), western hemlock, western spruce, red cedar and Port Orford cedar of Oregon and Washington, these columns are surmounted by jardinieres, containing shrubs and vines, which also trail from the half-log eaves boxes.

Upon passing between the grotesque newels, consisting of slabs from Douglas fir butt logs, and up the hewed timber steps into the building, one enters a perfect Gothic hall of fine proportions with striking Oriental stenciled roof effect. The structure is built of Douglas fir. The roof is suspended from exterior trusses which are cleverly roofed over with redwood shakes. Main roof is shingled with both redwood and red cedar shingles to make it truly representative of the Coast.

In each end of the building are balconies constituting music and writing rooms, whose walls are boards and battens, redwood in one end and fir (Oregon pine) in the

other end, making a simple but effective finish. The balcony fronts are made up of alternate panels, forty inches wide, of Douglas fir (Oregon pine), California pine and California redwood. The fir and pine are rotary cut three-ply veneer, the redwood used is in full width boards. The floor in the main hall is 1x3 vertical grain western hemlock, which in its natural silver gray tone has been much admired, while especial appreciation has been shown by those who have enjoyed dancing over its smooth surface at several evening parties. As wood is a natural sounding board, the good acoustics of this hall were assured, and it is a delight to speakers and musicians, in striking contrast to the disap-



pointment experienced in many plastered halls. The window openings are glazed with plate glass and at dusk the reflection of the arched interior in the end windows seems to extend on indefinitely.

The draperies, lighting fixtures and quaint sugar pine furniture are further proof of Mr. Maybeck's artistic touch. The California white pine room at the rear of the main hall is much admired, while the Douglas fir (Oregon pine) finish and paneling in the men's reading room, in the west end of the structure, with its floor of the same wood, indicates the possibility of this wood for finish, while in the east end California redwood is attractively shown as finish in the ladies' rest room. Thus all of the woods are shown in individual rooms as well as in the combinations in the main hall.

One of the most satisfactory of the many appreciative expressions in relation to the Lumbermen's Building, is the commendation of architect visitors, of this vicinity and from other States, who have shown great interest in this built-in display of the woods of the Pacific Coast. This interest has assumed a practical aspect, that the lumbermen most appreciate, in that several architects have brought clients to the building in order to show them the possibilities for home finishing in our Pacific Coast lumber.

A cordial invitation is extended to architects and their friends to visit this building at any time, and if it can serve as meeting place for a local gathering or for a national convention of architects our Board of Governors will be happy to devote it to such appropriate use upon application.

Further appreciation was shown by the International Jury of Awards in presenting a grand prize for the best collective exhibit of soft woods at the Exposition.

Pacific Coast Chapters, A. I. A.

THE ARCHITECT is the official organ of the San Francisco Chapter of the American Institute of Architects.

San Francisco Chapter, 1881—President, William B. Faville, Balboa Building, San Francisco, Cal. Secretary, Sylvain Schnaittacher, 233 Post Street, San Francisco, Cal.
Chairman of Committee on Public Information, William Mooser, Nevada Bank Building.
Chairman of Committee on Competition, William B. Faville, Balboa Building, San Francisco.
Date of Meetings, third Thursday of every month; annual, October.

Southern California Chapter, 1894—President, A. C. Martin, 430 Higgins Building, Los Angeles, Cal. Secretary, Fernand Parmentier, Byrne Building, Los Angeles, Cal.
Chairman of Committee on Information, W. C. Pennell, Wright & Callender Building, Los Angeles.
Date of meetings, second Tuesday (except July and August), (Los Angeles).

Oregon Chapter, 1911—President, A. E. Doyle, Worcester Building, Portland, Ore. Secretary, William G. Holford, Chamber of Commerce Building, Portland, Ore.
Chairman of Committee on Public Information, William G. Holford.
Date of Meetings, third Thursday of every month (Portland); annual, October.

Washington State Chapter, 1894—President, James H. Schack, Lippy Building, Seattle, Wash. Secretary, Arthur L. Loveless, 513 Coleman Building, Seattle, Wash.
Chairman of Committee on Public Information, J. S. Cote, 520 Haight Building, Seattle.
Date of meetings, first Wednesday (except July, August and September), (at Seattle except one in spring at Tacoma); annual, November.

SAN FRANCISCO CHAPTER, A. I. A.

The regular monthly meeting of the San Francisco Chapter of the American Institute of Architects was held at the Bergez-Franks restaurant, 421 Bush Street, on Thursday, June 17, 1915. The meeting was called to order at 1 p. m. by Mr. W. B. Faville, the President.

The minutes of the meeting held April 13, 1915, were read and approved.

Board of Directors: The Board of Directors reported that in order to assist the Southern California Chapter in payment of expenses incurred in the matter of the law of 1872 and also in order to make good the Chapter's obligation to the Architectural League Scholarship Fund, that a subscription list is being circulated to raise the required amount.

Sub-Committee on Competitions: The committee reported that the competition for the new wing of the San Francisco Hospital had been decided and Mr. Hermann Barth had been appointed Architect for the work.

Sub-Committee on Public Information: Nothing to report.

Legislative Committee: This committee was pleased to report that after many years of effort on the part of this Chapter and the Southern California Chapter, the statute known as the law of 1872 had been repealed by an act of Legislature and the bill signed by the Governor. The repealing act becomes a law in August and will permit school and county boards to select an Architect either by competition or appointment and will do away with the requirement of the Architect furnishing a bond, and other obnoxious features which were embodied in the old act.

The amendment to the act regulating the practice of architecture, although having passed in the Senate, was not reported out of committee in the House, and will therefore have to be taken up again.

Nothing was done with the Art Commission bill.

The act to save the trees bordering on the Placerville road, which is to be part of the Lincoln Highway, passed both Houses and when last heard of was in the hands of the Governor for signature.

Mr. Faville stated that he had procured many telegrams and letters from influential people requesting the Governor to sign this bill.

Communications: From Governor Hiram W. Johnson in acknowledgment of the resolution passed at the April meeting; from Wm. H. Gruen, M. A. I. A., regarding a "suggestion for a proposed national license law"; from August G. Headman, Secretary of the Architectural League of the Pacific Coast, relative to the League's Scholarship Fund; from W. C. Hassler, Health Officer, calling attention to a meeting of the Board of Health in reference to a recommended regulation pertaining to State tenement house act; communications and clippings from R. A. Herold referring to the Hall of Justice Building at Sacramento; from Southern California Chapter, asking for funds from this Chapter relative to expense connected with the law of 1872 at the last session of the Legislature; from Arthur T. Loveless answering Secretary's communication in reference to Architectural League matter; from Shea & Lofquist referring to Mr. Herold's charges; from A. R. Walker, Secretary Southern California Chapter, thanking San Francisco Chapter for assurance of financial assistance in the law of 1872 matter; from R. A. Herold regarding Shea & Lofquist and E. C. Hemmings.

Unfinished Business: There was no unfinished business.

New Business: It was decided that as advices had been received that an Institute meeting would be held in San Francisco from October 6 to October 12, 1915, that the Secretary communicate with Mr. Burt L. Fenner, Secretary of the Institute, and Mr. Julian Clarence Levi, Chairman of the Committee on Arrangements, as to a program of the proceedings and entertainment during their stay in San Francisco.

Membership: Mr. Horace G. Simpson having made the necessary application for membership and having been balloted upon, fifty-one ballots were received and counted and Mr. Simpson declared unanimously elected to Chapter membership.

Adjournment: There being no further business before the Chapter, the meeting adjourned at 2 o'clock, subject to the call of the chair.

♠ ♠ ♠

SOUTHERN CALIFORNIA CHAPTER, A. I. A.

Minutes of the Eighty-Fifth Meeting of Members, Regular Meeting: The eighty-fifth meeting of the Southern California Chapter of the American Institute of Architects was held at the Hollenbeck Cafe, Los Angeles, on Tuesday, June 8, 1915.

The meeting was called to order at 7:50 p. m. by the President.

The following members were present: D. C. Allison, J. E. Allison, John C. Austin, J. J. Backus, A. B. Benton, Lyman Farwell, R. C. Farrell, Chas. Gordon, Chas. S. Greene, Elmer Grey, John C. Hillman, J. W. Krause, John P. Krempel, A. C. Martin, H. H. Martin, S. B. Marston, B. M. Morris, Octavius Morgan, O. W. Morgan, A. F. Rosenheim, Winsor Soule, August Wackerbarth, Albert R. Walker, Garrett B. Van Pelt, Jr., H. F. Withey, F. R. Schaefer.

As guests of the Chapter were present: Mr. Charles H. Alden, Architect, from Seattle; Mr. Park M. French, of Denver, Colo.; Mr. John W. Mitchell, an Honorary Member of the Chapter; Harry Iles and John Bowler, of the *Builder and Contractor;* W. E. Prine, of the *Southwest Contractor;* G. D. Donald and C. J. Shults.

The regular order of business was set aside for the purpose of listening to a talk by Mr. Elmer Grey. Mr. Grey spoke on a trip made through France and Italy, and the talk was illustrated by stereopticon views. This talk proved to be extremely entertaining and at its conclusion a vote of thanks by resolution adopted was rendered Mr. Grey.

The minutes of the eighty-fourth meeting were next read and approved.

For the Board of Directors the Acting Secretary reported that two meetings had been held since the last Chapter meeting. At the second meeting eleven members had been suspended for non-payment of dues, and the resignation of one accepted.

For the Committee on City Planning, Mr. John C. Austin reported that one meeting had been held by the members of this committee at the City Hall with the committee of the Council; that the committee was endeavoring as far as possible to co-operate with the Councilmanic committee relative to the formation of a city planning commission and other works along similar lines. That it was the intention of the Chapter's committee to carry on this work, offering their services to the Board of Freeholders, under whose guidance a new charter is being prepared.

For the Committee on Contracts and Specifications, report was made that the work of formulating a uniform specification, schedule of unit prices, and standardized list of materials, had been accomplished by the committee and the Electrical Association, and further recommended the endorsement of the Chapter on the work done.

Display Room: 67 New Montgomery Street
San Francisco

"Pacific"

Plumbing Fixtures

Guaranteed for an unlimited period of years against defects in material and manufacture

FACTORIES: RICHMOND, CALIFORNIA

WRITE FOR OUR BOOKLET ON SCHOOL SANITATION

By a motion made, duly seconded and carried, the Chapter voted to render the endorsement requested by the Electrical Association.

For the Committee on Resolutions on the death of Mr. W. S. Eames, Mr. A. F. Rosenheim presented a report. This report, together with a resolution attached, was adopted by the Chapter, and in accordance with the terms of the resolution the Acting Secretary was instructed to send copies of the same to the relatives of the deceased, to the St. Louis Chapter, A. I. A., and further that these resolutions be spread upon the minutes of this Chapter.

Communications were next read as follows: From Miss M. L. Schmidt, manager of the Metropolitan Exhibit, inviting members of the Chapter to attend a dinner to be held on June 10th.

Under the head of unfinished business, the matter of adopting the Institute's Canons of Ethics was presented, but by resolution made, duly seconded and carried, this action was deferred until the next meeting.

Under the head of new business, the President announced the holding of the second annual "A. B. C." picnic on June 26th, and strongly urged all members if possible to be present.

Announcement was also made by the President that this meeting constituted the last regular meeting before the usual vacation.

Mr. Park M. French, a member of the Colorado State Board of Architecture, was next called upon, and with a short talk outlined the work of the State Board of Architecture in the State of Colorado.

The President next called upon Mr. Charles H. Alden, visiting Architect from Seattle, who also addressed the Chapter, extending a cordial invitation to the members to visit his home town.

Mr. John W. Mitchell, Honorary Member of the Chapter, was next called upon, and briefly addressed the Chapter in a few well chosen words.

Mr. Winsor Soule, a newly elected member of the Chapter, was next called upon.

The meeting adjourned at 10:45.

FERNAND PARMENTIER, *Secretary.*

(Signed) *By* A. R. WALKER, *Acting Secretary.*

♠ ♠ ♠

OREGON STATE CHAPTER, A. I. A.

Minutes of the regular meeting of the Oregon Chapter held at the Commercial Club: Meeting was called to order with the following members present: Johnson, Lawrence, Patterson, Beckwith, Hogue, Doyle, Holford, Lazarus, and Schacht.

There being no objections, the minutes of meeting of March 18th were approved as printed.

Moved by Johnson, seconded by Lawrence, and carried that the reading of minutes of special meeting held May 25th be dispensed with and the minutes approved.

Committee Reports: Professional Practice—Mr. Lazarus, chairman, read a letter from Mr. H. A. Whitney, charging unprofessional practice by the members of the Chapter. Mr. Lazarus asked instructions from the Chapter in the matter. Moved by Lawrence, seconded by Beckwith and carried, that the Secretary be instructed to write Mr. Whitney asking him to submit to the Chapter the names of architects or building to which his charges refer in order that the charges may be investigated.

Mr. Lazarus read a letter from Mr. Van Buren McGonigle regarding advertisements in the journal and the effort being made to make these of value to both the advertiser and the architect or owner. In this connection, Mr. Lazarus submitted a copy of letter addressed to the members of the Chapter, together with circulars, with the request that the Secretary send letter and circulars to each member. Secretary was instructed to carry this out.

Municipal Plans and Affairs—Mr. Johnson reported that his committee had consulted with the Rose Festival Association Committee and prepared a scheme of decoration, but that owing to financial conditions the committees suggestions were not used.

Mr. Johnson stated that during the coming winter he was prepared to organize a course of lectures on architectural subjects in connection with the Recreation League and the University of Oregon Extension work. Mr. Johnson further reported in connection with the Benson Testimonial at Hood River that his committee had submitted sketches for the testimonial and that the matter was now in the hands of the Hood River committee.

Educational Committee—Mr. Whitehouse, chairman, submitted a written report covering the awards made in the competition held by his committee for the purpose of awarding prizes given by the Chapter to the students of the atelier and the architectural department of the University of Oregon.

Mr. Whitehouse commented very favorably on the work done by the University of Oregon boys and stated that first and second prizes and first and second mention were awarded. The work of the atelier boys was unsatisfactory and only second prize was awarded, the first prize being carried over to next year. Mr. Lawrence suggested that when the prize books selected by the committee were presented that the books be properly inscribed.

Moved by Beckwith and seconded by Johnson and carried, that the report of the committee be accepted.

Communications: Letter from Institute accompanying standard documents was referred to Committee on Professional Practice, with instructions to examine same and report back to the Chapter.

Advance notice of excursion of architects to exposition was referred to Committee on Program and Entertainment, with instructions to consider plan for entertaining the architects during their stay in Portland, and report to the Chapter.

Letter from Mr. Whitney taking position that the Board of Directors had no right to accept his resignation was read. Moved by Lawrence, seconded by Lazarus and carried, that to remove doubt as to authority of directors in the matter of resignation of Mr. Whitney, the action of the directors is hereby confirmed.

Letter from Builders' Exchange was read enclosing resolution on matter of opening bids in presence of contractors.

Letter from Institute Committee on Chapters regarding form of membership application blank was referred to Membership Committee, with instructions to report.

Letter from William H. Gruen on National License Law was referred to the Legislative Committee for a report.

Meeting adjourned.

WM. G. HOLFORD,
Secretary.

Current Notes and Comments

Architect Edgar A. Mathews, San Francisco, is now president of the Northern District, California State Board of Architecture.

Prentice Sanger, landscape architect and architect, has sent out cards announcing the removal of his offices from 331 Madison Avenue to 8 West Fortieth Street, New York City. Mr. Sanger is well-known in the Pacific Coast section.

Architect B. E. Remmel, of Porterville, has been instructed by the Board of Trustees of that city to prepare working drawings and specifications for additional buildings and class rooms on the high school property. The new buildings will provide space for domestic science classes, and will be equipped in most modern manner for this sort of work.

Architect B. J. S. Cahill, well known to readers of this magazine, has acquired international fame through his invention of a world map, which neither exaggerates nor distorts.

The new map shows the ground plan of the world to a uniform scale. A large hydrographic map of the world, to the scale of a 36-inch diameter globe, is now on exhibit at the Panama-Pacific International Exposition. It is called the "Butterfly Map" and can be found between "The Chronicle" and the Remington Typewriter exhibits at the west end of the Palace of Liberal Arts.

Visitors are invited to inscribe their names in the register so that further information can be mailed to them.

Like most large manufacturing concerns, the firm of W. P. Fuller & Co. maintains, at its factory, a highly efficient fire department. To increase this efficiency they hold a semi-annual race, in which teams from the various departments participate. Each team consists of five men, who pull a hose cart a given distance, couple the hose to a hydrant, and turn on the water. The winning team is the one completing this in the fewest number of seconds. As a substantial cash prize is awarded to the winners, there is keen rivalry, both among the contestants and the various departments from which they are drawn. The results of the contest are a quickening of interest in the work in general, and the attainment of a degree of efficiency seldom seen among amateur fire fighters.

RESIDENCE OF MR. R. H. PEASE, SAN FRANCISCO

ASBESTOS "CENTURY" SHINGLES

The Best-known Artificial Roofing Slate in the World

This is a re-roofing job, which shows the adaptability of Asbestos "Century" Shingle to all manner of pitch roofs.

This material is fire-proof and time-proof, will not rust or decay, requires no paint or upkeep expense.

Asbestos "Century" Shingles have the endorsement of practically all official insurance organizations, such as the Underwriters Laboratories, Inc., of Chicago; American Society of Fire Prevention and the National Fire Protection Association.

If you are not in a position to furnish your clients with facts about these shingles, write for terms, prices and samples.

Sold by the

KEASBEY & MATTISON CO.

Manufactured by the

ASBESTOS SHINGLE, SLATE & SHEATHING CO.

Ambler, Penna., U. S. A.

J. A. DRUMMOND

Pacific Coast Representative

725 Chronicle Bldg. San Francisco

Stock Carried in San Francisco with the

HASLETT WAREHOUSE CO.

Residence, T. W. Cushing
Oakland, California
Milwain Bros., Architects, Oakland, California

EQUIPPED WITH

PITCHER

Disappearing Doors
Adjustable Hangers

AND

Patented Frames

Pitcher Disappearing Doors installed in 5½ inch partitions. No extra thickness of wall required. Specify Sliding Doors in place of Swinging Doors.

WRITE FOR PARTICULARS

NATIONAL MILL & LUMBER CO.

FIFTH AND BRYANT STS. SAN FRANCISCO, CAL.

The Brick Home—*Continued from page 33*

Opened wide the factory doors of N. Clark & Sons, Common Brick Manufacturing Association, California Brick Co., Diamond Brick Co., Redwood Manufacturing Association, Simplex Window Co., Gladding, McBean & Co., Los Angeles Pressed Brick Co., Pacific Porcelain Ware Co., United Materials Co., and Steiger Terra Cotta and Pottery Works.

And now there stands the Model Brick Home according to the gospel of the Panama-Pacific Clay Products Association.

But you say, "The exterior is all right and the structure looks like a home, but to make a real home requires more than form. Is this a real dwelling? Does it contain a soul?"

Opportune is that question. Enter and receive a welcome from Miss Louise Brigham, artist, writer and expert in home making, who resides there. She will convince you that you have at last found a real home. It is completely furnished with her inventions of box and Imada furniture; the furniture on exhibition in the Palace of Education that has been awarded the Medal of Honor by the Jury of Awards. If you wish to know more of it and how you may acquire one like it, Miss Brigham will tell you.

♠ ♠ ♠

Orrin S. Goan, of New York, has been elected president and a director of Berry Brothers, well known firm of varnish makers. Frank W. Blair has resigned, owing to other business interests, Mr. Goan becoming the active head of the company.

Mr. Goan was formerly connected with The National Biscuit Company, and companies now constituent parts of that corporation before they were merged into it. He comes to Berry Brothers with a fine reputation. We express our best wishes for the success of Mr. Goan in his new position.

MT. DIABLO
CEMENT

Always Used Where Quality Counts

Cowell Santa Cruz Lime

Henry Cowell Lime & Cement Co.

2 Market Street, San Francisco

BRANCHES:

Oakland Sacramento San Jose Santa Cruz
Portland, Oregon Tacoma, Wash.

ROOFING TIN
Specification Reference Card

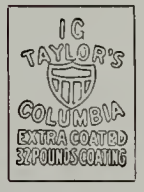
This reference card is offered for architects who wish to secure for their clients high class roofing plates that represent Equivalent Values

Target-and-Arrow brand, formerly known as Taylor's "Old Style." The only strictly hand-made plate on the market. The same quality that this house has been supplying to the trade for over sixty years. Each sheet stamped with our name and registered trade-mark. Should be specified alone to insure its being used.

VS. No Equal.

N. & G. Taylor Co.'s Special 40-lb. Coating—pure open hearth—sheets stamped in this manner. To be included in specifications where more than one brand is specified. Guaranteed the equal of any other 40-lb. coated plate on the market.

VS. Other makers' high grade commercial 40-lb. terne plates; any first-class well recognized makers' plate commercially known as 40-lb. "Old Style" ternes.



Taylor's "Columbia, Extra-Coated," 32-lb. coating, one of our old established brands. Base, our own make of open hearth quality; sheets heavily and richly coated through palm oil. A good plate to specify for a moderate price roof.

VS. Various brands of "extra-coated" ternes sometimes stamped "Old Method," "Hand-Dipped," "Re-dipped," "Old Style," etc.

N. & G. TAYLOR COMPANY
PHILADELPHIA

Headquarters for Good Roofing Tin since 1810

Nephi-Plaster

Was used exclusively for the exterior and interior walls of the main group of buildings and courts of the PANAMA-PACIFIC INTERNATIONAL EXPOSITION, San Francisco

The reason:

Best by Test

Specify NEPHI for the home or business block.

It Makes the Wall

SOLD BY REPRESENTATIVE DEALERS THROUGHOUT THE WEST.

Main Office: BOSTON BUILDING, SALT LAKE CITY, UTAH

W. L. ELLERBECK, General Manager

WORLD'S BEST

The Hoffman Heater received the Highest Prize awarded on Automatic Instantaneous Gas Water Heaters

THE MEDAL OF HONOR

By the

Panama-Pacific International Exposition

There Must be a Reason

The Hoffman Heater Company

LORAIN, OHIO

PACIFIC COAST BRANCH

397 Sutter Street, San Francisco

Phone Kearny 4325

Oakland Office, 533 13th Street

Phone Oakland 2481

Los Angeles Office, 115 West 17th Street

Phone 20274

THE ARCHITECT

VOLUME X · NUMBER 2 ·
· AUGUST · 1915 ·

THE GRAND PRIZE

TWO GOLD MEDALS OF HONOR
ONE GOLD MEDAL

ARE THE AWARDS OF THE

PANAMA-PACIFIC INTERNATIONAL EXPOSITION

TO

W. P. FULLER & CO.

MANUFACTURERS OF

PAINTS . COLORS . VARNISHES
AND
PIONEER WHITE LEAD

THE GRAND PRIZE IS THE
HIGHEST OF ALL AWARDS

THE ONLY GRAND PRIZE
PAINT MANUFACTURER
GOES TO

W. P. FULLER & CO.

San Francisco

Oakland
Portland
Sacramento
Seattle
Stockton
Tacoma
Fresno
Yakima
Monrovia
Reno
Los Angeles
Honolulu
San Diego

Liquid Granite

Lasting Waterproof Floor Varnish

Luxeberry White Enamel

Whitest White Stays White

The Wonder-Working Finishes

The work of a good floor varnish is two-fold. It should both protect and beautify the surface it covers. Liquid Granite has been doing this two-fold work in homes and public buildings for over half a century. Its lustre enhances the beauty of natural woods and its extraordinary toughness defies the effects of water, weather and hard wear.

The same qualities of toughness and elasticity that mark Liquid Granite also distinguish Luxeberry White Enamel. And whether you prefer a finish of porcelain-like brilliancy or dull ivory in tone Luxeberry produces a surface that shows no trace of brush marks and refuses to crack, chip or turn yellow no matter how hard the wear.

Some dealer near you sells Berry Brothers celebrated varnishes. You can secure interesting booklet on finishing from him, or by writing our factory direct—as you prefer.

BERRY BROTHERS

(INCORPORATED)

World's Largest Varnish Makers

Factories: Detroit, Mich., Walkerville, Ont., San Francisco, Cal.
Branches in principal cities of the world

(45)

Edward Hotel, San Francisco

TORMEY CO.,
Painters, San Francisco

S. E. CORNER SCOTT AND LOMBARD STREETS

CHAS. J. ROUSSEAU
Architect, San Francisco

Interior Finished with **Kyanize** KY-AN-IZE Rubbed Finish

A dull varnish
particularly adapted to withstand the hard usage
of hotels, public buildings, etc.

BOSTON VARNISH COMPANY, Boston, U. S. A.

San Francisco Office and Warehouse, 311 CALIFORNIA STREET

A. L. GREENE, Western Representative

Tacoma
W. J. HANSON CO.
1129 South C St.

Los Angeles
SUNSET PAINT COMPANY
627 South Main St.

Portland
S. W. HUGHES & CO.
Morgan Building

St. Emydus Church

Painting by
VINCENT J. DONOVAN
San Francisco

ST. EMYDUS CHURCH
Grafton and Ashton Avenues
Ingleside, San Francisco

JOHN J. FOLEY
Architect
San Francisco

The above cut shows
the effect of

TWO COATS OF

THE MURALO COMPANY
CEMENT
CONCRETO
COATING
NEW BRIGHTON, N.Y.

IN WHITE

Concreto may be used by the architect to obtain the highest grade of finish on concrete, in any desired shade or color tone, and at the same time thoroughly waterproof the building.

Sole Makers **THE MURALO CO.,** New York

San Francisco Office, 311 CALIFORNIA STREET
A. L. GREENE, Agent

Los Angeles
SUNSET PAINT COMPANY
627 S. Main Street

Distributors:

San Francisco
D. H. RHODES
546 Valencia Street

CITIZENS NATIONAL BANK BUILDING
Los Angeles

PARKINSON & BERGSTROM
Architects

The above recently completed building
offers convincing evidence of the beauty and perfection of our Enameled
Brick. So do hundreds of representative buildings
throughout the Pacific Coast.

Los Angeles Pressed Brick Co.
402-14 FROST BLDG., LOS ANGELES, CAL.

United Materials Company
5 CROSSLEY BLDG., SAN FRANCISCO, CAL.
Distributors for Northern California

MAIN ENTRANCE, CITY AND COUNTY HOSPITAL
San Francisco

BUREAU OF ARCHITECTURE
Architects

Terra Cotta and Green Glazed Roof Tile

Manufactured by

Steiger Terra Cotta & Pottery Works

Office: 729 Mills Building
San Francisco

Factory: South San Francisco
California

CITIZENS NATIONAL BANK BUILDING
Los Angeles

PARKINSON & BERGSTROM
Architects

The above recently completed building
offers convincing evidence of the beauty and perfection of our Enameled
Brick. So do hundreds of representative buildings
throughout the Pacific Coast.

Los Angeles Pressed Brick Co.
402-14 FROST BLDG., LOS ANGELES, CAL.

United Materials Company
5 CROSSLEY BLDG., SAN FRANCISCO, CAL.
Distributors for Northern California

MAIN ENTRANCE, CITY AND COUNTY HOSPITAL
San Francisco

BUREAU OF ARCHITECTURE
Architects

Terra Cotta and Green Glazed Roof Tile

Manufactured by

Steiger Terra Cotta & Pottery Works

Office: 729 Mills Building
San Francisco

Factory: South San Francisco
California

EDWARD G. BOLLES, Architect
San Francisco

WEST CLAY PARK RESIDENCE
San Francisco

S. A. BORN, Builder
San Francisco

EQUIPPED WITH

PITCHER

Disappearing Doors
Adjustable Hangers

AND

Patented Frames

Pitcher Disappearing Doors installed in 5½ inch partitions. No extra thickness of wall required. Specify Sliding Doors in place of Swinging Doors.

WRITE FOR PARTICULARS

NATIONAL MILL & LUMBER CO.

FIFTH AND BRYANT STS. SAN FRANCISCO, CAL.

Pacific Sewer Pipe Company

Manufacturers of

Dry Pressed, Glazed and Enameled Brick

825 East Seventh Street
Los Angeles, Cal.

KANSAS CITY ORPHEUM THEATER
Kansas City, Missouri

G. ALBERT LANSBURGH, ARCHITECT
San Francisco

MAIN FACADE AND LOBBY ENAMELED AND POLYCHROME ARCHITECTURAL TERRA COTTA

MANUFACTURED AND ERECTED UNDER THE SUPERVISION OF

GLADDING, McBEAN & CO.

OFFICE: CROCKER BUILDING
SAN FRANCISCO

FACTORY
LINCOLN, CALIFORNIA

YOUNG MEN'S INSTITUTE BUILDING
AND DONAHUE LIBRARY,
San Francisco

W. D. SHEA
Architect

Matt Glazed Terra Cotta in Polychrome

Manufactured by

N. CLARK & SONS

OFFICE: 112-116 NATOMA STREET
SAN FRANCISCO

FACTORY: WEST ALAMEDA
CALIFORNIA

THE ARCHITECT

VOLUME X. SAN FRANCISCO, CALIFORNIA, AUGUST, 1915 NUMBER 2.

J. A. DRUMMOND, Publisher . . . . . CLARENCE P. KANE, Editor

PUBLISHED IN THE INTERESTS OF THE ARCHITECTURAL PROFESSION, ON THE FIRST OF EACH MONTH, AT 725 CHRONICLE BUILDING, SAN FRANCISCO. SUBSCRIPTION IN THE UNITED STATES AND POSSESSIONS, $5.00 A YEAR; FOREIGN AND CANADIAN, $6.00 A YEAR. SINGLE COPIES, EACH 50 CENTS. ENTERED AS SECOND-CLASS MATTER AT THE POST OFFICE IN SAN FRANCISCO.

CHANGES IN, OR COPY FOR, NEW ADVERTISEMENTS MUST REACH THE OFFICE OF PUBLICATION NOT LATER THAN THE FIFTEENTH OF THE MONTH PRECEDING ISSUE. ADVERTISING RATES AND ANY OTHER INFORMATION WILL GLADLY BE GIVEN UPON APPLICATION. FORMERLY KNOWN AS THE PACIFIC COAST ARCHITECT.

THE EDITOR WILL BE PLEASED TO CONSIDER CONTRIBUTIONS, OF INTEREST TO THE PROFESSION. WHEN PAYMENT FOR SAME IS DESIRED, THIS FACT SHOULD BE STATED. TELEPHONE DOUGLAS 3424.

Editorial

♠ ♠ ♠

Chapter Officials Show Progression

We present in this issue an unusually attractive article entitled "Important Information for Your Client," published by and under the direction of the Iowa State Chapter, American Institute of Architects. This article has been mailed broadcast, showing a most worthy spirit of progression and co-operation on the part of the Iowa State Chapter officials. Not only is such an undertaking expensive, when promoted by a single chapter, but considerable time and individual effort must be expended by those in charge.

It is not necessary for the writer to here review the article in question, as we have reprinted it fully. Our only motive in mentioning the matter editorially is that we know this article and the information it contains to be so good that we believe every architect should have not only one copy, but many copies of the circular. They can be used to admirable advantage by the architect in mailing to persons interested in building, for the prime purpose of avoiding mistakes and friction, much of which can certainly be eliminated by a thorough perusal of the information at hand.

To this end and with the permission of Mr. Eugene H. Taylor, secretary of the Iowa State Chapter, we desire to advise our readers that copies of the circular can be obtained directly from the office of Mr. Taylor at Cedar Rapids, Iowa.

"We will be glad to furnish copies of it (the circular) to all asking for it. To be sure, the expense might be considerable, but we desire to be doing some good in some way," writes Mr. Taylor.

Needless to say, the secretary of the Iowa State Chapter is a man of broad vision as well as broadminded. In making the above statement he shows a spirit of co-operation and a desire to be of kindly assistance to fellow members of his profession, worthy of special mention. He further writes: "We are open to all criticisms and suggestions for its (the circular) improvements. There is so much that might be included it is hard to know what is best to include, but it seems best to limit it to its present length and shape; still, it might be increased a bit perhaps if the right items can be fitted in, or some revamping and rearranging is found wise. Its present shape is the result of considerable study and suggestion. We will be grateful for the thoughts of the California confreres. It is for the education of the public (and stiffening up of the profession where such is, alas, often necessary), and it has been mailed to many citizens, to school boards, who are reported as calling for appropriations and bond issues; to church boards, building committees, etc., as information of prospective operations come to hand. A continual circulation of this or something like it would seem to be effective in time, even if not at first."

Writing in similar vein, William L. Steele, of Sioux City, president of the Iowa State Chapter, says: "The circular referred to is tentative and I hope represents a step in the right direction. I also hope that it will be improved upon, as no doubt it will if the other chapters take hold of the subject-matter."

President R. Clipston Sturgis of the American Institute of Architects has heartily commended this article. Mr. Sturgis also gave valuable aid in its preparation, or rather revision of the tentative form, a few of which were printed in March, and for which criticisms were asked.

It is only too true that "experience has shown that lack of information on the relations that should exist between the client and the architect is one of the most fruitful causes of trouble in building; "any increased knowledge that might operate to obviate much of this difficulty will undoubtedly be welcomed by the profession."

We desire to be among the first to congratulate the officials of the Iowa State Chapter, and especially Secretary Eugene H. Taylor, on their efforts, which promise such widespread and excellent results.

♠ ♠ ♠

Veritable Storehouse of Knowledge

While corresponding with Secretary Eugene H. Taylor, of the Iowa State Chapter, A. I. A., Mr. Taylor has been pleased to forward us copy of a "Missionary Sheet," which his firm (Josselyn & Taylor Company, Cedar Rapids, Ia.), got up about twenty-five years ago, in the form of a newspaper sheet, and which was primarily intended to inform clients of the architect's real work in connection with preparations for building; and we note a great similarity between the subject-matter of this "Missionary Sheet" and the circular just gotten out by the Iowa State Chapter. This further augments some of the basic truths that underlie the profession of architecture. The relations between the architect and client as regards the architect's services in designing a building was the same twenty-five years ago as it is to-day.

This "Missionary Sheet" also shows that modern-day evils were not unknown twenty-five years ago. We quote from it as follows: "The history of competition shows that it is fraught with many evils and pregnant with danger both to clients and architects. Some of its evils are inherent in its nature, while more are prevented by obedience to the laws of common-sense and fair play.

"No less than forty-seven different forms of unnecessary evils have been enumerated, which were due to the action of clients as frequently as to arcbitects, and which have repeate lly appeared in competition.

"Rarer than angels' visits have been the competitions that have resulted satisfactorily both to those inviting and to the invited. So gross have the evils become that many leading architects of the principal cities refrain from competitions in which justice is not assured to both clients and architects. Is not this wise and right?

"The principle of unpaid and unrestricted competition is unjust and wrong. Something for nothing is not business."

There is so much very good information in this little "Missionary Sheet" that we would like to reproduce it all, in full, but lack of space forbids. However, we shall hope to draw from its store of knowledge from time to time, as we were never more forcibly struck with the needs and evils of the architectural profession as upon reading this "Missionary Sheet."

♠ ♠ ♠

The Architect as a Business Man

There has been much writing on the subject of the rareness of that architect who can succeed under present-day conditions solely because of his talent. Architects themselves will tell you that to make a success in the architectural profession a man must be a good organizer, with a keen appreciation of modern business methods, and, while every one is familiar with the latter remark, its importance to the vital growth of the architect is too big for the statement to lose value by repetition.

Many architects will admit that too little attention is paid to the business end of the profession; that the practitioner very often gives scant notice to matters that would be of prime importance to the average business man. It has been pointed out that architects suffer from a lack of knowledge and proper understanding of tbe essential features and basic conditions of their profession, which has been numerously designated as that part of the architectural profession separate from the specific work of designing.

To be frank in the matter, the above allegations seem true in too many cases. Nevertheless, there are architects who have made a separate study of the so-called business end of their profession, resulting more noticeably in a careful arrangement of their offices and indicative of the headquarters of a man who has developed those qualities and factors with concern for commercial return.

To develop a knowledge of salesmanship, bookkeeping and other office work, does not require that the architect shall not still cling to the high ideals of his profession. Practices that formerly were frowned upon as unethical have of more latter years become more generally accepted as true standards of business.

The question in point, however, is that many architects could pay greater attention to the manner of getting business and work for increased efficiency and organization in the office, as judged by modern-day business standards, without impairing the dignity of their profession.

This is a frank statement of the matter, but the principle is right, and it will operate when applied to the architectural profession in precisely identical manner as when used by the ordinary commercial business establishment.

Detail of Attic—New Orpheum Theater, Kansas City, Mo.
G. Albert Lansburgh, Architect.

New Kansas City Orpheum Theater.

EXEMPLIFYING THE MODERN FRENCH RENAISSANCE STYLE.

Completed in the modern French Renaissance style, the new Kansas City Orpheum Theater, designed by Architect G. Albert Lansburgh, of San Francisco, recently opened to the public, has given to that city a playhouse of marked beauty and utility, well enabling one to judge of the magnificence of the architecture of the period.

Architect Lansburgh has designed six theaters for the Orpheum Circuit, and his work as a builder of the theater has been conspicuously brilliant.

The building covers a lot 100 feet wide and 146 feet deep. It is of concrete and steel construction, faced in terra cotta, closely resembling Tennessee marble.

The exterior effect is at once magnificent and genteel. The facade is excellent in workmanship and materials. The skill in which the various parts have been assembled is markedly noticeable.

The finely proportioned fluted columns and corresponding pilasters, with their full entablatures, support a richly decorated attic containing five panels, in bas relief of very excellent workmanship; the whole making an effect of elegance, pleasant to the eye and consistent with the true display of modern French Renaissance. The cherubic figures in these panels typify a spirit of joy and life perfectly. The designs evoke a spirit, animated and real, representing the sheer joyousness of living.

The center portion of the facade is characteristic of excellent taste and design, and the windows should be noticed. They are surmounted by pedimented ornamental lucarnes or bull's eyes.

Architect Lansburgh is a close student of the modern French Renaissance, and there is no more beautiful treatment of a facade than this work. The whole design is of great interest and strong theatrical character.

Polychrome, or many-color terra cotta, is used in the ceiling and walls of the lobby and vestibules. The lobby is vaulted and lighted by five alabaster bowls, which aid in bringing out the beauty of the color scheme.

The theater seats 2300 people and embodies all the conveniences and improvements of the modern day.

The interior is of considerable architectural interest. It has been designed to carry the eye smoothly along variant curves, uninterrupted by sharp angles.

The boldness of the scheme and the combination of walls and ceiling into one composition has forced the architect to observe more than ordinary precaution to keep from losing the force of the scheme. He has done this by completing the interior in a series of ellipitcal lines, arches supported at the walls by pilasters and wall columns. The lines are so strong that almost the impression of a vaulted ceiling is given. He has avoided much seriousness by introducing an exceptionally fine dome, which unites all the arches and serves as a climax, richly delicate in treatment, to the design.

Every line in the theater carries a rich profusion of decoration in excellent scale and taste. The architect has tied up the color scheme intimately with his designs, being made on a sufficiently broad scale to avoid too great a complexity. To rest the eye, these have been relieved with good-sized stenciled wall spaces, lightly tinted with peacock blue. The other colors are as delicate,—French gray, a formal lacquer of gold and a warmer tone in orange. The draperies are orange, and touches of burnt orange are picked out in the ornaments, high lighted with gold, here and there quieted with delicate mauve tones. The dome, forty feet in diameter, was painted to represent the sky, studded with stars. A massive chandelier furnishes the lighting. Here, as in all other parts of the house, the indirect system of lighting is used. The side walls are paneled in blue, stenciled with gray and gold. Massive columns on each side of the proscenium arch and side walls support the domed ceiling, which is divided into panels and highly ornamented. The balconies are of the cantilever type.

There are four boxes on each side of the lower and mezzanine floors, and the top tier has eight on each side, here introducing a new and very successful arrangement, which gives an excellent sight line, as well as a decorative feature.

The curtain is of wire-woven asbestos and weighs more than twelve hundred pounds. It is painted in imitation of velvet drapery. Directly behind it is a silk velour curtain to match the other house draperies.

Particularly noticeable is a mural painting by W. DeLeftwich Dodge, entitled "Dance of Youth"—which covers a large panel over the proscenium arch.

No stage in the West is so thoroughly equipped as this, with its 1700 lights in all colors, swung in brilliant reflectors from the flies. Borders and foot lights are all under a control system, which enables the operator to produce any light from sunrise to sunset.

Twenty-two dressing rooms are provided for the performers. The orchestra is given a spacious room directly under the pit. A constantly changing atmosphere is provided by a ventilating system, whereby the air is washed and cooled or heated as the temperature may require. Forty thousand cubic feet of air is changed every minute the fans are working.

The seats are finished in mahogany, with comfortable stuffed leather seats and backs. A splendid view of the stage is offered from any position in the auditorium, whether it be on the main floor or at the highest point in the gallery, and the acoustics are really remarkably good.

Good taste is noticeable in the architectural treatment of the foyer, fitted up for women, and much ingenuity has been displayed by the architect in the conception of this beautiful room. Balconettes and French windows overlook the front approach to the theater. It is provided with divans, lounging chairs, writing desks, telephones and dressing tables. Architecturally, the room is a very original design, and one of the features of the theater. This room has all the conveniences of the lobby of a first-class hotel, and embodies the pleasurable conveniences of a thoroughly equipped and modern ladies' dressing room.

Club rooms have also been provided for men in the basement, with smoking and lounging rooms, fitted up in comfortable manner. A handsome fireplace adds cheer to the scene. Artistic paneled glass domes heighten the warmth of the room.

The architect has contrived a fine architectural shape in the double vestibule entrances of the theater, from which open a spacious arched lobby, where the same color terra cotta is used as in front, relieved with polychrome panels. The lobby floor is random marble mosaic, in figured panels and patterns. Five sets of double doorways lead to the foyer. The stairways and doorways, leading to the balconies, are wide and convenient.

From the standpoint of safety, there has been nothing in this line better designed. In the first place, the building is isolated, being surrounded as it is by a street and three

Continued on page 88

The Ancient Church of Kilpeck.

There are many most astonishing examples of the architecture of the Norman period still remaining in England, some only fragments, to be sure, but all, in their entirety, graphically recording a stormy period of history. Durham Cathedral is, of course, the finest and largest example, but portions of most of the cathedrals, several castles, a few houses, and many small churches bring their testimony also.

Among these small churches one of the most remarkable is that of Kilpeck, a few miles from Hereford, in southwestern England. Hereford Cathedral itself, though a comparatively small structure, is an excellent example of Norman work, but Kilpeck Church, and particularly its southern doorway, is unsurpassed anywhere in England. There are other remarkable specimens of richest Norman work throughout the country: the western entrances of the cathedrals of Rochester and also of Lincoln, the Prior's Doorway at Ely Cathedral, the doors of the church at Iffley, another well-known example of splendid Norman building a few miles from Oxford,—these are only a few of the typical late-Norman productions, so finely illustrative of the last three-quarters of the twelfth century. That of the half-century preceding is, as we know, simpler and ruder in construction, "the age of the axe instead of the chisel." The Kilpeck Church, however, is a small sample of massive Norman work at its height. The heavy round arches of the interior are decorated with rude representations of early saints, but it was reserved for the sculptor of the exterior to weave together with ingenious spirals gruesome reptiles and curious grotesques, with strange figures of knights in armor,—the whole doorway somehow reminding one, though vastly better in execution, of the extravagant and savage decorations of a ruined Aztec temple. The beakhead motive, in its utmost elaboration, can be studied here at Kilpeck above the low, round-arched doorway; indeed the whole is a remarkable piece of Norman work.

Doorway of Kilpeck Church

This Norman work of extreme western England has indeed a peculiar character of its own that is most fascinating, differing as it does from that of other sections of the country. This difference is partly owing to its proximity to Wales, that portion of the British Isles which keeps alive to this day its traditions of a fierce and warlike past. The natural scenery of Wales itself, its stern and lofty mountains and its rugged coast, have done much to keep alive these wild traditions. Whoever has visited Shrewsbury, for instance, that town a little to the north which has such a stirring history, and which was in the very center of so much of the border warfare, will recall the old half-timber houses of the town, how striking they are in color how bold in design, their idiosyncrasies of architecture fairly startling the tourist. Bustling as this town may be to-day, fierce memories of the past seem to hang over it, and influence its very life.

Herefordshire has many vastly interesting examples of Norman work which illustrate this spirit of conflict. In the tympanum of Brinsop Church for instance (c. 1150) is a spirited carving of St. George overcoming the dragon (the knight in full armor and on horseback), while the church of Shobdon has unusually elaborate designs covering the entire surface of the pillars, of men in armor and struggling grotesques and fearsome beasts, curiously interwoven in Runic designs. This Celtic imitation of wickerwork, marvelously intricate in pattern and so widely adopted by other early nations, has been indeed greatly admired for centuries, and forms a whole subject of itself.

The little church of Kilpeck well illustrates much that has been said in the foregoing, but it is an example of "much in little." One authority includes it "among the most interesting churches of the Norman period" in Herefordshire, and also refers to it as "one of the most remarkable structures of rare Irish (or Celtic) Norman architecture." It is the southern entrance of this church, however, that is, as was said, so remarkable. That many of these early doorways throughout England have escaped destruction is most fortunate. One well-known writer has said: "There seems to have been a desire in the architects who succeeded the Normans to preserve the doorways of their predecessors, whence we have so many of these noble, though, in most cases, rude efforts of skill remaining. In many small churches, where all has been swept away to make room for

alterations, even in the Perpendicular style, the Norman doorway has been suffered to remain. The arch is semicircular, and the mode of increasing their richness was by increasing the number of bands of moulding, and, of course, the depth of the arch. In these doorways almost all the ornament is external, and the inside often quite plain.

Almost every county in England contains many Norman doorways; they are very often the only part which patching and altering has left worth examining, and they are remarkably varied, scarcely any two being alike. These rich and elaborately worked Norman doorways all belong to the latest division of the style, and are of the time of King Stephen or Henry II. They have frequently been inserted in earlier Norman work, as at Lincoln and Rochester. The church at Kilpeck is an architectural jewel, though a jewel in the rough. Few changes have been made in this little building during the centuries, and, carefully repaired, it stands to-day a unique memorial of a departed age.

Kilpeck Church

Church architecture, and especially those buildings constructed in early periods, have always been a source of much interest for their wonderful beauty, and when one stops to consider the wholesale ruin of churches in the course of the present war, these olden churches that are to be spared such ravages will be the source of increased interest.

The degradation of churches at Louvain and at Ypres and the untold damage done to the masterpiece of French architecture, the Cathedral of Rheims, is but a small particle of the damage executed.

It is appalling to think of the extent of the havoc that has been wrought, not only in these larger cities, but to the splendid cathedrals dating back hundreds of years, which have been razed in the inconspicuous towns and villages of Belgium and France. The whole world knows about the damage to the Cathedral of Rheims, when thousands of shells were poured into that building, and at the present rate of destruction of such masterpieces of architecture many more will probably be wiped out within a short time.

It is not my purpose to make mention of this latter phase only for the purpose of emphasizing the importance of Kilpeck and other English churches, which from present indications may be spared destruction.

England is said to stand first in all Christendom in the number and antiquity of her churches. The function of a church in a parish was much more varied and intimate with the life of the people in the olden time than now. However, religious change has not tended to the destruction of the architecture of these old churches. The spirit seems to have been preserved in contrast to the many rebuildings which Continental churches exhibit.

Churches in England of all periods undoubtedly form a unique subject for architectural study. Space forbids to dwell upon many of the buildings and interesting works of art. Inspiring bits of architecture find their dwelling place in the old churches. There is to be seen a multitude of examples of the finest work of the mediæval artists and craftsmen.

The "restorations" that have been made in some instances might have been replaced by something comely, though new, and it is to the old churches "unrestored" to which we must turn for inspiring thoughts—treasures for all nations.

The ravages of time are viewed with resignation; it is something inevitable, but the contemplation of some of the more recent "restorations" has provoked considerable alarm. Hence, an additional reason for the preservation of the olden churches.

The Nave, Hereford Cathedral

It might be mentioned that steps are already under way in England for the restoration of many of the churches and cathedrals that have been damaged in the war area. A special board of architects has been named for this purpose and many views have been expressed and lectures delivered on the best means and method of proceeding with the work after the war has ended. It is certain that profit will result from some of the past work of this nature and every effort will be made for restorations that really are significant of this word's meaning.

An historic style of architecture is distinctive, and portrays the character of people during certain periods of history. Its value to the world is too unmistakable not to require "serious thought" when restoration is mentioned.

Important Information for the Client.

Persons who have never employed an architect are apt to be at a loss as to the proper method of procedure, while many who have had some experience may not be familiar with the intricacies of architectural practice.

They may not understand that it is a *profession;* calling for men of the highest integrity, business capacity and artistic ability; to command respect and confidence as advisers, and to sustain a grave responsibility to the public. No one may have given them practical information as to the relations that should subsist between client and architect. Experience has shown that lack of information on this subject is one of the most fruitful causes of trouble in building. The following is a brief outline of vital elements in building operations:

1. The owner, who is to spend the money, as he does not and cannot know what he is buying, must trust the architect. Therefore he should first of all assure himself that the architect is worthy of his confidence; second, that he is fitted by study of economy in plan, construction, and material to discharge the grave responsibility; in short, that he has the right to the professional title.

2. The owner's interests are to secure the most available service, suitable design, best construction, most economical expenditure of funds. These can only be obtained by employing, not as a luxury, but as a necessity, an expert, a competent and reliable architect. The owner will be most benefited by choosing an architect before deciding upon anything else connected with the building project (in many cases even before fixing the building site and limit of expenditure), thereby gaining from start to finish the services of the expert's technical experience and knowledge in every phase of the problem.

3. Architecture in its highest element is a fine art—it is never a *trade*. The architect's practice is upon the same basis as that of the physician and the attorney; each is a *profession*, and selection should be on exactly the same principle, upon record for character, integrity, ability and fitness for the service; a sensible, business-like, time and trouble-saving method.

4. Designing a building is a process of evolution. Nothing but the full working out of the problem can produce this. The architect is a sort of clearing-house, in adjusting a multiplicity of ideas, wishes, needs, financial and other details. It is practically impossible for an advance program to be an absolute guide to the best eventual scheme. The data compiled by an architect for such purpose may be quite different from that which at the start suggested itself to either owner or architect. The owner should get the benefit of his architect's best ideas and various solutions of the problem, not simply what is presented to catch the attention, and "get the job"; the services of an expert, not of a mere draftsman.

5. The fallacy of the employment of an architect on the basis of the amount of commission, does not in any way represent a wise measure. "Penny wise and pound foolish" applies most appropriately to the attempt to practice economy by choosing cheapness, merely to save the fair price for good service.

An incompetent man doing good work for a small commission might easily use a large per cent of the cost of the completed structure in wasteful use of material, inefficient planning, misimproved opportunity, costly and unnecessary construction, with unsatisfactory results; whereas a competent man charging a higher rate for his services could give a very much higher percentage of return for the investment of funds, resulting in an ultimate saving.

6. Architects, like doctors and lawyers, place different values upon their services, and their services likewise vary in merit and results. This should not confuse the owner—the best is likely to be the higher priced. It is safe to rely upon the reasonableness of the rates for minimum fees and principles of practice as recognized by the leading representatives of the profession and the higher courts.

The right kind of professional service can only be maintained by adhering to the established standard of service; payment of adequate charges, based upon what long and wide experience has shown to be fairly remunerative; and methods that insure equitable relations between owner and architect.

The reverse of this takes the heart out of the labor and invites temptation to poor, worse still, dishonest service.

7. Competition may be the "life of trade," but, as history shows, it is a delusion and a snare in professional practice, fraught with evils and pregnant with danger alike to client and architect.

Architectural competition is usually a handicap to the end sought. The functions of an architect are many and varied; he can be judged better by his reputation and completed work than by a preliminary sketch which represents merely one of his minor duties.

Do not expect gratuitous competitive designs, any more than diagnoses, prescriptions and briefs. Plans are not like merchandise, kept in stock, to fit all individual needs; the model plan exists only for its individual place and condition; each building requires special time, study and labor—the architect's capital.

The unethical and uneconomic principle of "something for nothing" (that allures many), coupled with the prevalent lack of knowledge of correct architectural practice is responsible for an intolerable condition. So gross, deplorable and prevalent has the lack of sane business-like action and good faith between client and architect become, that self-respecting and upright architects more and more refrain from all competition.

8. Designs presented in competition are likely to be the product of clever draftsmanship; instruments for working *at*, rather than *with*, the owner. With competitive drawings it is difficult to disassociate the excellence of the design from that of the catchily rendered drawing, or to determine to what extent the one presenting the drawings is to be credited with the design, since their preparation is easily assigned to a picture maker, by whose handiwork it is absurd to judge the architect.

It is often impossible to correctly weigh the relative merits of contestants, by hearing them present claims for consideration, and equally impossible to weigh the relative merits of preliminary sketches, rapidly reviewed in the limited time ordinarily accorded to the task.

Such competition is a severe temptation to employ tricks of draftsmanship and promise of more than can be performed in the way of securing a desirable structure at a

E. N.—This article was prepared and published by the Iowa State Chapter of the American Institute of Architects, to which full credit is herewith given.

New Orpheum Theater, Kansas City, Mo.
G. Albert Lansburgh, Architect

Interior View, Showing New Arrangement of Gallery Boxes—New Orpheum Theater, Kansas City, Mo.
G. Albert Lansburgh, Architect

Interior View from the Stage, Showing Seating Arrangements—New Orpheum Theater, Kansas City, Mo.
G. Albert Lansburgh, Architect

Proscenium Arch, Showing Decorative Panel, "The Dance of Youth," by William De Leftwich Dodge—New Orpheum Theater, Kansas City, Mo.
G. Albert Lansburgh, Architect

General View of the Interior, Showing the Indirect Lighting System—New Orpheum Theater, Kansas City, Mo.
G. Albert Lansburgh, Architect

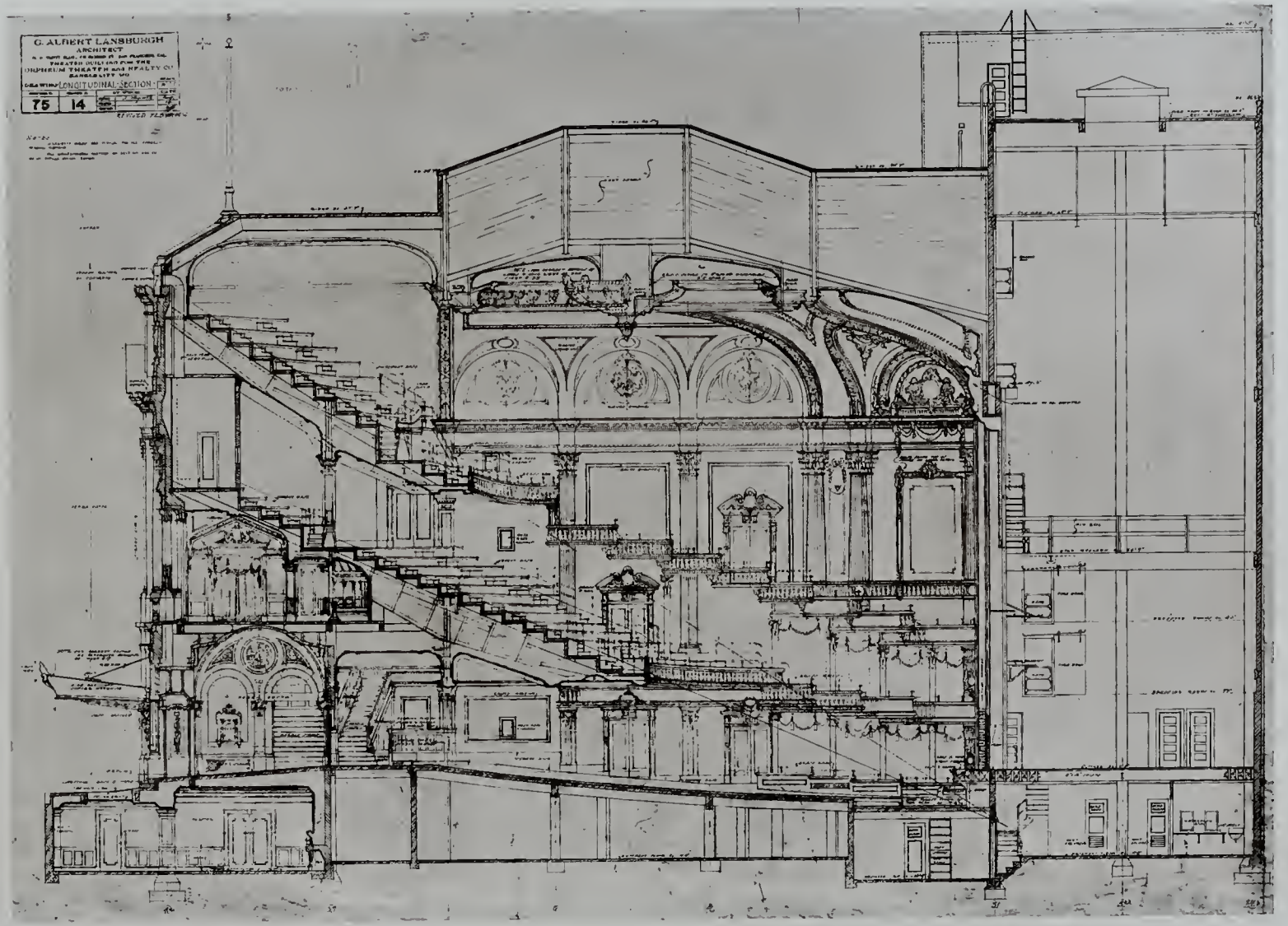
Ladies' Foyer

Detail of Pediment—New Orpheum Theater, Kansas City, Mo.
G. Albert Lansburgh, Architect

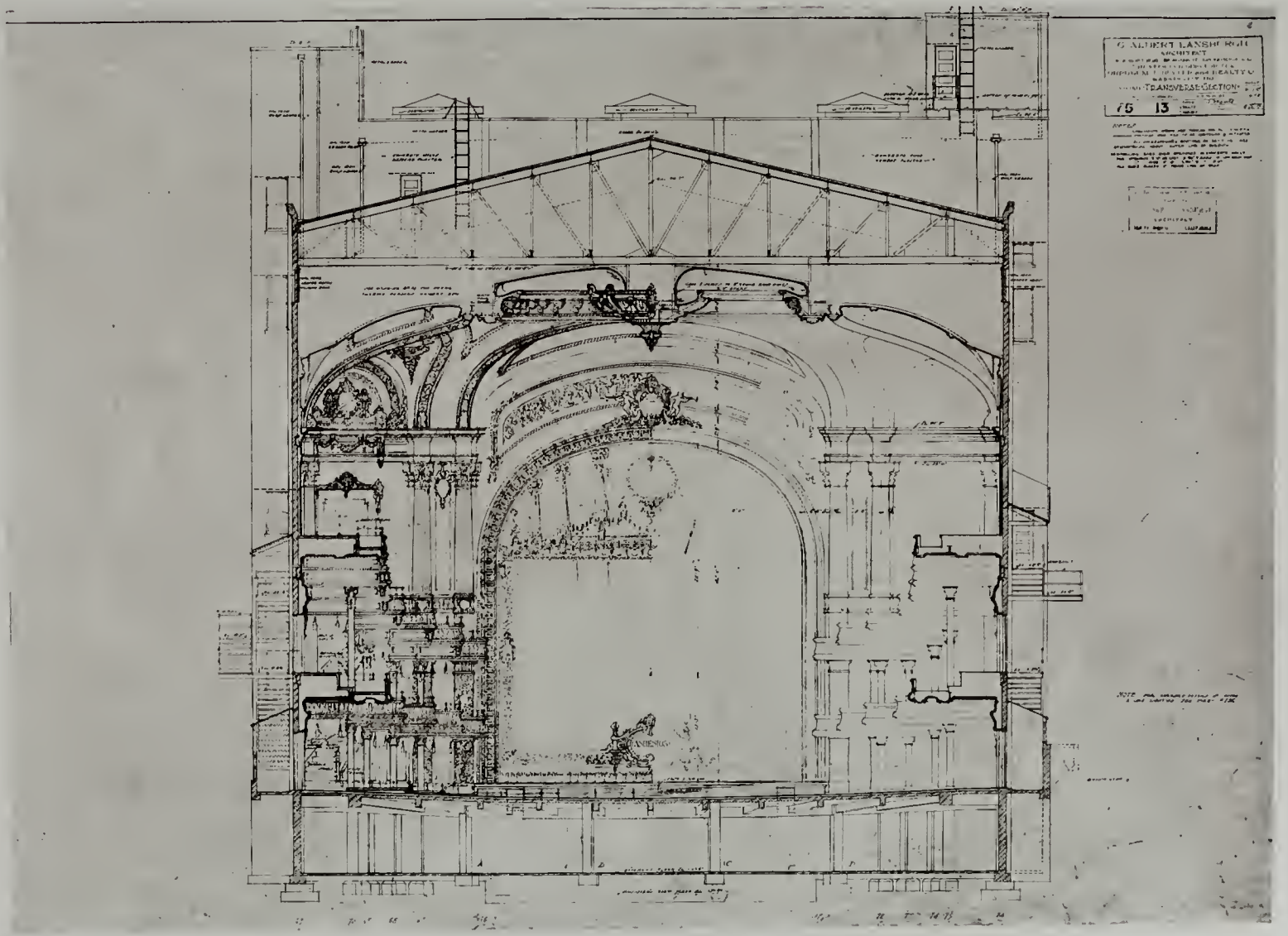
Lobby, in Polychrome Terra Cotta—New Orpheum Theater, Kansas City, Mo.
G. Albert Lansburgh, Architect

Detail of Second-Story Fenestration—New Orpheum Theater, Kansas City, Mo.
G. Albert Lansburgh, Architect

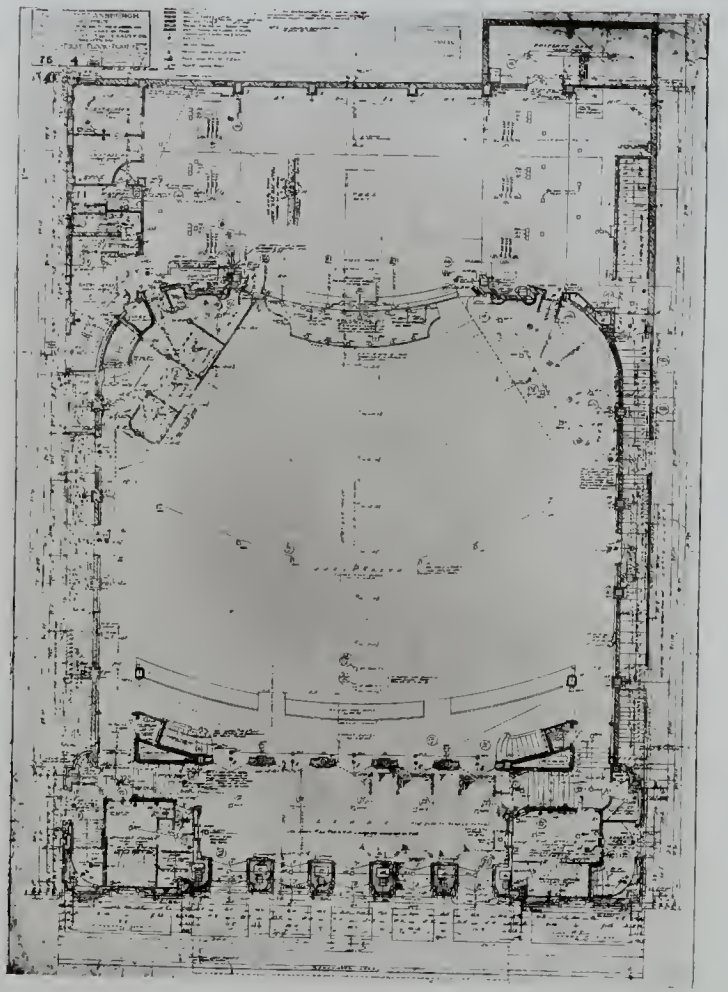
General Details—New Orpheum Theater, Kansas City, Mo.
G. Albert Lansburgh, Architect



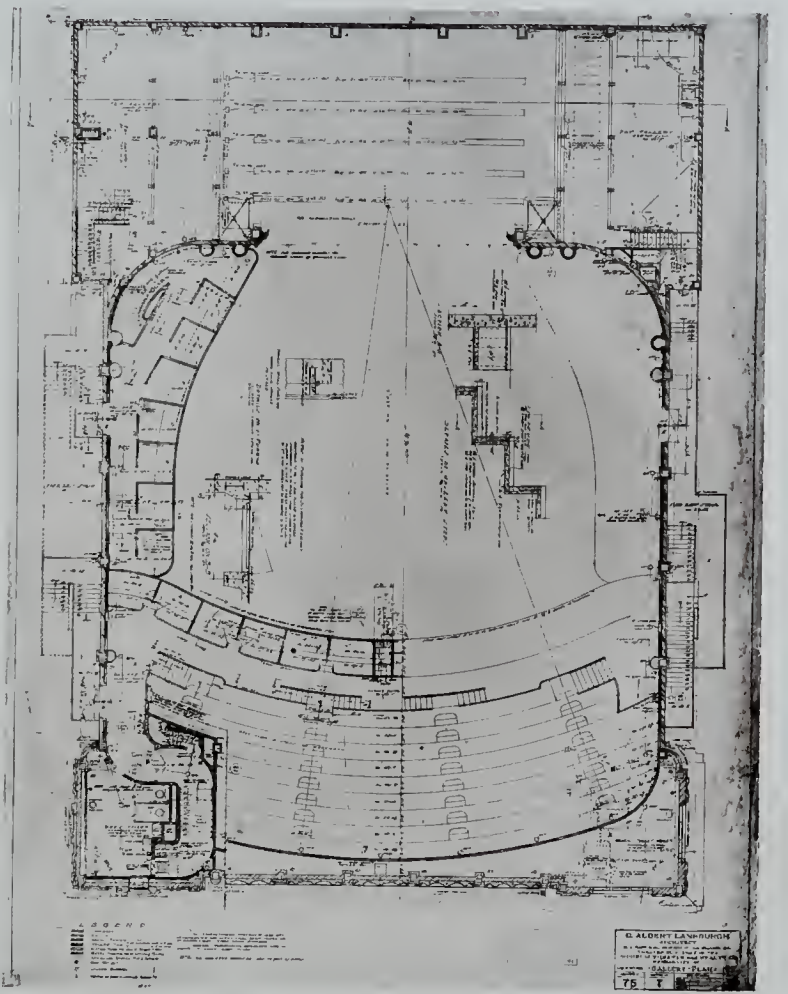
Longitudinal Section from the Architect's Drawings—New Orpheum Theater, Kansas City, Mo.
G. Albert Lansburgh, Architect



Transverse Section from Architect's Drawings—New Orpheum Theater, Kansas City, Mo.
G. Albert Lansburgh, Architect



First or Orchestra Floor Plan

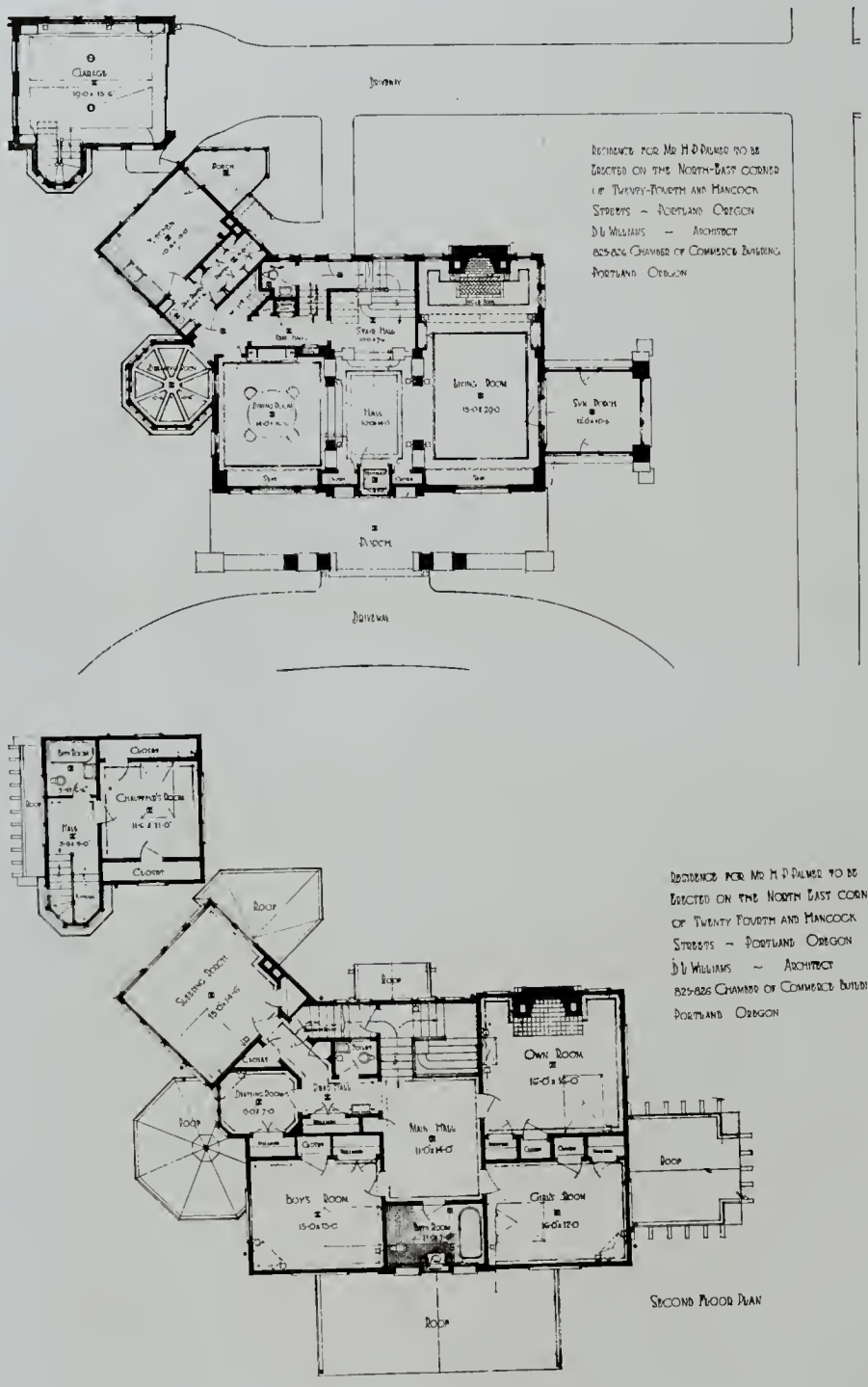


Gallery Plan

New Orpheum Theater, Kansas City, Mo.
G. Albert Lansburgh, Architect

Residence of H. P. Palmer, Portland, Oregon
D. L. Williams, Architect

Residence of H. P. Palmer, Portland, Oregon
D. L. Williams, Architect



Floor Plans, Residence of H. P. Palmer, Portland, Oregon
D. L. Williams, Architect

Dining Room

Ingle Nook—Residence of H. P. Palmer, Portland, Oregon
D. L. Williams, Architect

Living Room

Staircase and Entrance Hall—Residence of H. P. Palmer, Portland, Oregon.
D. L. Williams, Architect

given expenditure. Since all want the most that can be had for the appropriation the competitor who will yield the most to these practices is too often the one accepted. His inability to make good manifests itself too late.

9. The date set for holding a competition may be one unavailable to the best fitted architect for the work; again the time limit for preparing the design may be inadequate for proper study; and furthermore he may not care to devote the time and expense necessary to a competition. Hence the selection is limited to the less capable.

10. Rather than limit securing a design to selection from among the few that a competition may bring forth, it is wiser for the owner to do this by intimately co-operating with his directly chosen architect in careful consideration of all accessible prototypes and alternative studies.

11. The altruistic and academic competitions among architects and draftsmen for prizes and not connected with any specific building operation, are elements of educational stimulation, approved and fostered by the profession and public-spirited laymen. The public has no commercial interest in them and they are not to be confused with the ordinary competition which, save in exceptional cases, is held to be unwarranted.

12. One of the most well-known, experienced and successful architects of the nation, much of whose excellent work was obtained by competition, said: "I fail to know of a single commission in this country awarded by competition, in which the client would not have been better served had the architect been appointed by direct selection."

13. When a competition is unavoidable or advisable, a study should be made of "*Architectural Competition—A Circular of Advice and Information*" (Document number 114) and "*Standard Form of Competition Program*" (Document number 115), issued by the American Institute of Architects. These are a treatise and summary of the whole matter which show how to establish equitable relations between owner and competitor.

AFTER THE ARCHITECT IS CHOSEN.

Make up your mind to what you must have and can afford; either take what your money will pay for, or do not build. Have a distinct understanding with him.

Do not hurry; be satisfied with the sketches before working drawings and specifications are made.

Do business only with a suitable and honest contractor; "you cannot get blood out of a turnip."

Arrange every step beforehand in writing; pay fair prices; value for value the world over—you will get no more for your money than you pay for.

Watch the work but do all business through your agent and superintendent, the architect, who is the master-builder, and he alone should give orders to workmen.

Refer the contractor who comes with suggestions and real or fancied errors to the architect, to whom he should have gone. Make use of the architect's advice and avoid the chance of marring the whole, with incongruous furnishings within and environments without; the mind that designed the house should be manifest throughout.

Actually rely upon and follow him in all points. Do not appeal to contractor or journeyman. Do not be stampeded by neighborly critics and advisors. Keep in mind this pertinent thought:

> "Can you tell me why
> Men with a taste for art in finest forms
> Cherish the fancy that they may become,
> Or are, Art's masters? You shall see a man
> Who never drew a line nor struck an arc
> Direct an architect, and spoil his work,
> Because, forsooth! he likes a tasteful house!
> He likes a muffin, but he does not go
> Into his kitchen to instruct his cook;
> Nay, that were insult. He admires fine clothes,
> But trusts his tailor. Only in those arts
> Which issue from creative potencies
> Does his conceit engage him."
>
> —J. G. Holland, in *Kathrina*.

If you follow these few hints, in all that they imply, there is no reason why your house should cost you a cent beyond the estimated price, or why it should cause you more worry than buying a new suit of clothes.

The American Institute of Architects, composed of the leading architects of the nation, has for its object: "To organize and unite in fellowship the architects of the United States of America, and to combine their efforts so as to promote the artistic, scientific and practical efficiency of the profession."

The Iowa Chapter of this society offers the above for careful consideration, and will be pleased to furnish copies of the documents mentioned, other information, or discuss any points with interested persons.

Respectfully,

William L. Steele, *President*,
Sioux City, Ia.

Eugene H. Taylor, *Secretary*
Cedar Rapids, Ia.

May, 1915. Pub. No. 14.

Giving the Touch of Beauty to Cement.

BY A. M. MACMURRAY.

It was recognized almost at the beginning of the great development of the American cement industry, that cement for building purposes would be a leading, if not the leading, material. Its superiority, its strength, durability and economy had been proved, and it was to be expected that a way would be found to overcome its few disadvantages.

Chief among these was the tendency of cement and concrete to absorb moisture. Second was the dull monotony of color of ordinary cement, and the difficulty of making several batches of cement of like shade. Occasionally, too, ordinary cement takes on a spotted or streaked appearance, especially after protracted rains and snows.

Because of its character and its adaptability to almost any kind of construction, cement has often been the logical material to use, but its dull, blue-gray color so detracted from the artistic effect desired that it was much less employed than it otherwise would have been.

Ten or twelve years ago the use of cement was greatly retarded by these objections, held not only by architects and builders but also by those for whom buildings were to be erected.

But the very objections to cement were an incentive to finding the means of overcoming them. Obviously, the remedy was to discover how to preserve cement and concrete from external influences by an appropriate coating, yet one which would have no deteriorating effect upon the cement itself.

It is essential in any cement coating that it contain no elements of a corroding nature. It is equally desirable that it dry on the walls without destroying the texture of the material.

In the case of a wash or cold water paint, which has been tried in many cases, the effect has been a coating as absorbent as concrete or even more so. After a storm, the blotches and discolorations are still visible. Another point about a wash or cold water paint is that the glue or caseine binder soon rots under the action of the alkali and dampness, and dusts or washes off.

Mixing colored pigments with the cement itself has not proved generally satisfactory. In some cases, the addition of foreign coloring matter weakens the concrete. There also arises the impossibility of obtaining uniformity of color.

Lead and oil paints are out of the question. This is so for the reason that any coating which retains oil after drying is quickly acted upon by the alkali in the cement, forming a soapy mixture which never dries hard. Nothing containing neutralizing agents is usable to much advantage.

All of these facts have been recognized by the leading paint manufacturers of the country. It is generally accepted that the only medium is one which does not contain an oil affected by alkali, and one which evaporates at once as soon as applied. This leaves the base of the coating an integral part of the surface; it preserves the distinctive texture of the cement because it settles in the pores.

In the manufacture of Bay State Brick and Cement Coating, Wadsworth, Howland & Co., Inc., 139-141 Federal St., Boston, have a coating which has been proved by the most practical tests to be ideal. Leading architects and contractors throughout the country have tried it and pronounced it entirely satisfactory, and this is having a marked influence upon the popularity of cement and concrete for homes as well as office buildings.

This coating is manufactured from a base of a concrete nature, does not turn yellow and admits of many pleasing tints. It has opened an unlimited field of artistic possibilities to the architect, contractor and owner.

In hundreds of cases the superiority of this coating has been proved by the fact that neither rain nor snow can penetrate the cement walls. Consequently there is no discoloration and the natural dampness of the cement is reduced to a minimum. Moreover, the early tests, made as long ago as a dozen or fifteen years, have established the durability of Bay State Coating.

Architects and builders here and there still adhere to antiquated methods, or continue to experiment in the treatment of cement, but hundreds of architects and contractors in all parts of the country have tested Bay State Coating and endorse it as the most practical means of overcoming the objections to cements, concrete and stucco.

One of the most interesting pieces of evidence which the manufacturers of Bay State Coating submit to architects and builders is the comparative photograph showing a concrete or stucco building before it has been coated and afterward. This is only one of the many interesting photographs reproduced in the new catalog which Wadsworth, Howland & Co., Inc., have published, and will be glad to send to those interested.

It is surprising to note that in all sections of the country there has been a remarkable increase in the use of concrete and stucco for building of all descriptions. This is especially true in many cases of prosperous and successful men who are seeking homes picturesque and beautiful and believe that cement outranks all other material for their construction.

The Western States have contributed largely to the increased use of concrete, not only in the residence class of construction, but in large office buildings and factories as well. Bay State Coating has been extensively used throughout this section, where its many excellent qualities are widely known.

Definite Specifications for Materials.

Satisfactory Roofing: Nowadays, people often remark with disgust, "It is impossible to have good roofing done any more, either the tin is not good or there are no good tin roofers." Sometimes there is ground for this dissatisfaction, but sweeping charges like these do not mend matters. The charges are not true, neither do they point the way to better roofs. What is the real trouble? Let us as house owners see if we are at fault. The self-examination may lead to the light. What do we do when we have a building to roof? If it is a new one, we may leave it to the architect. But frequently the architect is so afraid we will think him "owned," or at least unduly influenced by some manufacturer that he dodges the responsibility of naming materials which he knows are good and simply says, "Best materials must be used. " He may be a little more definite and specify "Old Style Roofing Tin" or "40-lb. Hand-Made Tin Plate," but in actual practice this generally works out very little better than the first expression.

What are "Best Materials": Bids are than asked for and the lowest is accepted. Having to furnish no definite material, one roofer estimates honestly on a standard and well-known brand of roofing tin, regarding the quality of which there can be no question. Another puts his own definition on the word "best" and sends in a low estimate, saying to himself, "That is the 'best' I can furnish at my price."

How the Honest Roofer Loses: The first roofer also responds conscientiously to the architect's specifications, that the tin shall be applied in a certain way, using cleats and rosin for the soldering, that it shall be carefully painted with an approved brand of paint, and the entire job done in an entirely workmanlike manner. The other man believes he can slight the work in these or other important particulars and thus manage to make something on his low bid.

Can't Judge Tin in the Box: Neither the owner nor the architect can tell the durability of roofing tin by looking at the sheets. Good tin and poor tin look alike in the box. It may have a cheap coating put on by a labor-saving machine, it may have been made by the use of acid flux and may carry the requisite forty pounds of coating, and yet in spite of many points of inferiority, it may pass muster to the eye. Moreover, the defects do not show at once, and the tin roof is not likely to go wrong until after the work is accepted and the bill paid. When in a few years the roof shows signs of deterioration, we get angry and say, "It seems impossible to get honest materials and honest workmanship nowadays." We forget that the lowest bidder did the work and that he was the very fellow who, by every sign which ought to appeal to common sense, was least deserving of our confidence.

Be Reasonable: We forget, moreover, that in condemning all tin because the brand we used went wrong, we are about as unreasonable as we would be if we declared that there were no good strawberries any more simply because those we bought of an irresponsible peddler proved rotten at the bottom of the box. Well, in spite of our dissatisfaction, we must have our house re-roofed, so what do we do? Send for the man who made the high bid before and talk it over with him? Some of us would; others of us would say, "Not by a jug full, he wants it all. I see advertisements where roofing can be bought ready to be put on and a guarantee goes with it that it will last five or six

Carnegie Library, Howard University, Washington, D. C. Whitefield & King, Architects, New York City

Covered with "Target and Arrow" Roofing Tin

years or they will refund the money paid for it. They say it will last twice as long as tin roofing and is also much cheaper. I don't see how I can lose on that, I'll hire some fellow to put it on; anyone can lay this kind of roofing—and I will be away ahead of the game."

An Easy Roofing Game for Easy Marks: It looks easy, but the fact is *we* are easy! The roof goes on. Perhaps it is tight, perhaps it isn't. It stays on possibly a few years and then leaks begin to multiply.

Worthless Guarantees: But hold, we have a guarantee. We'll just collect on that and get back the cost of the material anyway. We try. Nothing doing. Our lawyer points out that the guarantee is very cleverly worded, and we could not recover under it. We also have just awakened to the fact that even if we could recover, the cost of the roofing was only a small part of the cost of the whole job. Punk! Now we know there is no good roofing material any more, and no honest manufacturers. Don't tell us! Haven't we had experience? Congress ought to investigate the roofing business! With a modification here and there the foregoing will fit exactly the case of a vast number of those property owners who have roof troubles. *What is the remedy?* In the first place, choose your roofer as you would your banker or your doctor. You may think roofing is not a skilled trade, but it is. The fact that almost anybody can solder tin, nail cleats and daub paint, does not affect the claim. There is much in knowing how to do these things right, in accordance with what experience has shown to be the best practice. Some roofs require a different treatment than others. A skilled roofer knows about these things, and they decide whether you are to have a satisfactory job or one which you will weep over. Roofers not only differ in knowledge and skill, but differ in honesty and conscientiousness just as your bankers and your merchants do. The so-called "banker" who offers you 10 per cent a month on your investment will not leave you a whole skin if he can help it; why do you expect anything but a "skinning" of a roofer who offers you so much more for your dollar than the other man, who has a fine reputation for good work and a consequent big patronage?

The Gambler Shouldn't Complain: The fact is, we "plunge" on our roofing, hoping that maybe we will win out on the gamble and then we squeal in a most unsportsmanlike manner when we are shorn by the fake roofing maker and the unscrupulous roofer—the bulls and bears of this little game. We are equally unfair toward materials. There is just as good roofing tin, and just as good solder, just as good old-fashioned rosin flux, and just as good paint as ever. In fact, the good materials are better to-day than the best ever were before, but we often insist on buying the worst and then blaming the disastrous results of the good materials which we might have used, but did not.

A Better Way: If the architect in the first place had named a standard brand of roofing tin to be laid in accordance with the standard working specifications of the National Association of Sheet Metal Contractors, and a standard brand of approved paint, all bidders, if estimates were asked, would have been on the same level, and the good roofer would not have been at such a great disadvantage. If, then, great care had been taken to invite only roofers of personal integrity, and with a reputation for excellent work, to bid, giving them liberty to do the work right, instead of insisting on their doing it as quickly and as cheaply as possible, the results would have been gratifying, both to peace of mind and pocketbook.

Metropolitan Museum of Art, New York City
Covered with "Target and Arrow" Roofing Tin

Have Confidence; also Prudence: It is also worth while always to see that the material specified is used. This is only common business prudence. You may thoroughly trust the bank teller, but you always count your money. It is no reflection on any one to look at the brand stamped on the sheets of tin and the label on the paint can. Excellent roofing is being done in every locality in this country, but it is not being done with cheap, perishable forms of roofing, nor with cheap, machine-made roofing tin—the inferior product of a large and varied industry. It is not being done by men who have never learned the roofer's trade, nor by men who, although having learned the trade, are of easy business morality, like the get-rich-quick bankers.

Good Work Attends Good Roofers: The good work is being done by the intelligent, conscientious roofer who generally costs more than the other, but is worth all he costs. He is in every community. It would pay the house owner far better in dollars and cents to hunt him up than to sit down and exclaim: "There is no good roofing tin and there are no good roofers any more," but sometimes it looks as if we would rather find fault than save money, as if we would rather be buncoed than use our common sense.

The Roofing Tin That Gives Satisfaction: The use of good, heavily coated, hand-made roofing tin is half the secret of a good roofing job. A good roofer is the other half. Finding a good roofer is a matter of inquiry. To get genuine hand-made roofing—the kind of tin that has proved so satisfactory in this country through more than one hundred years' use—it is really necessary to insist upon having that which is stamped on each sheet with the TARGET AND ARROW trade-mark, as this is the only brand of roofing tin now obtainable which strictly maintains its old-time standard of value after nearly 100 years' use. To protect you against the possibility of substitution of inferior material or imitations—and there are hundreds of these—each sheet of tin is stamped with the TARGET AND ARROW brand and the name and address of the manufacturers.

Current Notes and Comments.

The Otis Elevator Company exhibit of elevator machines and safety devices in the Palace of Machinery at the Panama-Pacific International Exposition is conceded to be one of the most attractive exhibits in the building.

Although it has been impossible, obviously, in the limited space available, to display all of the many types of Otis electric, hydraulic, belt and hand-power elevators, yet a splendid opportunity is given to become fully conversant with the newer developments in high-speed electric and push-button controlled machines.

The display of Otis 1:1 and 2:1 gearless traction elevator machines has been awarded the Grand Prix, and the Grand Prix has also been awarded on the Otis worm gear traction alternating current two-speed machine, which is arranged for speeds up to and including 350 feet per minute. This achievement, as can be readily appreciated, is a most notable advance in elevator design. The widening use of alternating current has prompted this important development, which unlocks many doors heretofore tightly closed against the specification of a comparatively high-speed alternating current elevator. A gold medal has been awarded on the new Otis electro-mechanical safety, the product of years of searching study and thought on the part of the company's officials and engineers. This new safety device has many distinct advantages over its predecessor for very high speed elevators, and has been granted the unqualified approval of the New York City Building Department, under whose supervision it was first tested and used.

A gold medal has been awarded on the Otis oil buffer, the invention and perfection of which has added so materially to the safety of elevator operation. One of these buffers is on exhibition, exposed, to illustrate the delicate and exact construction of its chambers.

A medal of honor has been awarded the Otis automatic push button control electric elevator, which travels twenty-four feet in an open hatchway to the balcony above, with its machine and controller located below to demonstrate the precise control qualities of this popular elevator.

The total awards granted the Otis Elevator Company are two grand prizes, one medal of honor and two gold medals.

♠ ♠ ♠

One of the most attractive and interesting booklets that has ever come to the editor is entitled "School Sanitation," and is published with the compliments of the Pacific Porcelain Ware Company and the Pacific Sanitary Manufacturing Company, San Francisco.

This booklet contains a most instructive article on the subject of school sanitation by Harold Farnsworth Gray, Health Officer, Palo Alto, California. It is especially written to have interest from an architectural standpoint. Being devoted to school sanitation, the publishers thought it wise to reproduce photographs of prominent and recently constructed school buildings, which certainly add to the interest of this booklet.

The prime purpose in presenting this pamphlet is to call attention to the porcelain enamel cast-iron ware and vitreous chinaware fixtures, which this concern considers especially fitted for use in schools, and an effort has been made to describe the fixtures shown, in a manner that would be clear to those not familiar with trade expressions.

Various late products of this company are also illustrated and give a very clear idea of the use and purposes of the various fixtures. It is said that Pacific Ware costs no more than any reputable eastern line and is backed by the company's unlimited guarantee against defects in material and workmanship. At the present time over 300,000 porcelain ware fixtures are giving satisfaction on the Pacific Coast.

Announcement was made by this concern that copies of this booklet will be mailed to any address upon request to the San Francisco office at 69 New Montgomery Street.

♠ ♠ ♠

In the advertisement of the Boston Varnish Company in this issue, it will be noticed that the well-known brand of Kyanize Varnish was used in the interior finish of the Edward Hotel, San Francisco. This varnish is particularly adaptable for hotels and public buildings. Kyanize varnish has been used in many of the larger apartment houses and hotels of the Pacific Coast. It is especially made with a view of withstanding the hard usage that the varnish of such buildings must stand. For school houses, hotels, and churches, it has been very widely used. Mr. A. L. Greene, 311 California Street, San Francisco, is the Western representative of this concern. Offices are located in all the Pacific Coast cities, where stocks are carried, convenient for immediate orders. Kyanize brand of enamel and varnish bears an enviable reputation.

♠ ♠ ♠

As a result of the urgent request of officials of the Panama-Pacific International Exposition, an informal meeting of the National Brick Manufacturers' Association, will be held at San Francisco during the last week of August. This gathering will not constitute a convention, but will be just a social meeting of those that can make it convenient to visit the exposition at this time. The gathering of the clay working clans will add to the pleasure of the occasion. In honor of the event the exposition made the announcement that August 26th has been officially designated as "National Brick Manufacturers' Association Day," and at that time a special program will be given.

The Model Brick Home at the exposition, erected under the direction of the Panama-Pacific Clay Products Association, will serve as the center of headquarters for the visitors and here an attendant will be in charge and all privileges will be extended to visitors.

Asbestos Shingles for Permanent Roofing.

BY CHAS. H. STRINGER.

Since the earliest time, roofing, from its most primitive form, as seen in the straw-thatched hut, has been a subject considered by everyone who contemplated a roof for a building. Slate came into use after a while, and later ready roofings and the cheaper slag and felt forms. Some of these materials are good and many indifferent. While considering the small cost of a roof in comparison to the large cost of erecting the building, and the interior furnishings, fixings, etc., it behooves anyone, who is anxious to protect and save the money spent in the walls, fixings, etc., to put on a roof that is permanent.

After all is said and done, the best roofing is by far the cheapest in the end, and the best construction of a roof is also the cheapest. For this reason a roof that is rough sheathed, properly felted and covered with asbestos shingles makes by far the best and permanently cheapest roof. The various roofs that have been in use for some time have demonstrated that, like the most of other materials, there is painting or maintenance to be taken into consideration in caring for the roof, and it remained for the inventor mentioned below to produce the greatest invention in roofing materials of the age.

In asbestos shingles one has a roof, when properly applied, that will outlast the lifetime of the building. The simple exposure of the elements causes the cement, that has been deposited upon the asbestos fibre in the process of manufacture, to crystallize, and it then becomes better and better; in fact, more serviceable as time rolls on. Cement has been known to crystallize as long as twenty-eight years from the time it was first mixed. This is only proof of the claims made for asbestos shingles—that they improve, toughen and harden with exposure to the elements and atmospheric conditions. Another good point which these shingles have, and it is not to be overlooked by any manner of means, is the fact that they do not have to be painted to preserve them, as the elements take better care of asbestos shingles than the best paint or dressing that has ever been manufactured.

The great invention covered by L. Hatschek's re-issued patent No. 12,594, under date of January 15, 1907, for a fireproof building material, composed entirely of asbestos fibre and hydraulic or Portland cement, marks on epoch in the building industry and a new birth in the matter of fire protection, so far as fireproof construction is concerned.

Being fireproof and not affected by continuous moisture or frost, or subject to deterioration by the elements in any way, it is obvious that asbestos shingles and asbestos building lumber may be employed freely and confidently in a vast variety of places where ordinary lumber has failed.

Primarily designed to replace the ordinary roof coverings, only, its merits have been found to be such that its employment by our best architects and engineers has extended to all classes of work wherein its many desirable qualities have supplanted other materials heretofore commonly in use.

E. W. Twaddle Residence, Devon, Pa.
Asbestos "Century" Shingles applied French Method on the Roof

It is perhaps superfluous to an educated person to say that asbestos shingles, slates or sheathing, made wholly of mineral fibre, asbestos and hydraulic cement, are both fireproof and indestructible. Asbestos, or mineral flax, as it is often called, from its peculiarity of crystallizing in fibres instead of in ordinary crystals, as is the usual case with mineral materials, and hydraulic cement have been known, from earliest times, as among the most refractory of substances. The old Greek and Roman remnants of antiquity, composed largely of hydraulic cement, remain mute witnesses of the everlasting quality of this material.

Asbestos fibre has remained exposed to the elements for unnumbered centuries, without deterioration. Its well-known fireproof quality renders it the most suitable fibre upon which to crystallize the cement deposited thereon in the course of manufacture. It is therefore evident, from the well-known qualities of these two materials, that nothing could have been selected that would have been more fireproof, indestructible and everlasting than asbestos fibre and hydraulic cement as raw materials from which to prepare a permanent building material, such as we have derived through asbestos shingles and asbestos building lumber. Nails may be driven through asbestos shingles and asbestos

building lumber, by a quick, sharp blow of the hammer, quite close to the edge without danger of fracture, thus differing materially from all other sheathing materials in the important attribute of toughness and homogeneousness.

It is sufficiently elastic to allow of marked tension due to vibration, expansion and contraction of surrounding parts, wind pressure, etc., without cracking or breaking in any manner. The resistence of these shingles to blow, flexion, tensions, etc., is enormous and surprising. These shingles may be punched, filed or worked generally with the greatest ease, with ordinary tools such as are used for working natural slate or wooden shingles. They become very hard, particularly if exposed to the weather, or after the lapse of years. One great and desirable feature of them is that they can be sucessfully jointed, fitted, etc., by the work of ordinary mechanics, no unusual or special knowledge being required in handling them.

Francis Line Residence, Cleveland, Ohio. J. Milton Dyer and F. G. Bates, Architects.
Asbestos "Century" Shingles applied American Method on the Roof and Asbestos Building Lumber on the Sides.

Owing to the enormous pressure under which the shingles are manufactured, they absorb, when fresh, only about four or five per cent of their weight of water, thus forming, as will be seen, a roofing tile of most excellent quality. Exposed to the action of the atmosphere for a year or two, the hydration and subsequent crystallization converts them into absolutely impermeable roof coverings, which, as such, defy all changes of climate and thus become greatly superior to other forms of sheathing.

On account of the lightness of weight of the asbestos shingles (under the French method of application the weight being only 275 pounds, and under the American method only 400 pounds per finished square), the framing may be of much lighter construction than that designed to carry slate roofs. Therefore a very considerable sum is saved in building construction. The shingles may be cut or sawed, shaped to fit around dormer windows, chimneys, etc., without fear of injury to those surrounding them. When with these good features is combined the absolute unalterability of the shingles, their economy of application and maintenance, their fireproof qualities, their toughness and elasticity, it is not to be wondered at that they make the best roof covering ever produced, either of natural or manufactured materials.

While the French method of applying asbestos shingles or roofing slates has many advantages over any other usage, many architects and users of roofing materials prefer the American or usual slate method of application.

After very careful observation in this and several European countries, we have become so thoroughly convinced of the value of the Asbestos "Century" Shingles that we, without any hesitancy, recommend them to all who desire a handsome and serviceable roof covering at a moderate cost.

They can be used upon nearly every class of structure where there is sufficient pitch of roof for the ordinary use of wooden shingles or natural slates. Architects who are desirous of securing an uneven appearance in the color of the completed roof are specifying that the Asbestos "Century" Shingles be laid haphazard right and wrong side up, which especially in the solid red color makes a very attractive roof.

Other variations may be practiced according to the ideas of the architect or designer; for instance, one might make a new start every fifth or sixth course by raising the course by a light strip of wood being placed under the next course above, which of course means a new start just the same as at the cave line.

W. E. Crawford Residence, Cincinnati, Ohio. Fasse and Reed Architects.
Asbestos "Century" Shingles applied French Method on the Roof and Honeycomb Effect on the Sides.

Various shapes of shingles may be used as band courses in conjunction with the regular pattern or style decided on in order to break the even appearance. Changes and variations might be made ad libitum, but we will not enumerate further as these things will suggest themselves to each individual taste.

No matter under what atmospheric conditions they may be applied, hot or cold, wet or dry, the asbestos shingles stand to-day unapproached, in the line of coverings, by any other material.

Asbestos "Century" Shingles—*the roof that outlives the building without either paint or repairs*—applied either French (diagonal) or American (usual slate) method, will protect your building in all kinds of weather, winter or summer, rain or shine.

They cannot rust or decay. Will not deteriorate or disintegrate. In short they are immeasurably superior.

Ventilation.

BY CHARLES T. PHILLIPS, C. E.*

The necessity for ventilation, that is, the renewing and purifying of air in a closed room or building, is due to the vitiation of the air by the products of respiration from persons in the room or building, to the products of combustion from artificial lighting, with the exception of the various types of incandescent electric lamps, to the heat generated by persons and lights and to the presence of gases from chemical processes.

In small spaces or in places where only a few people congregate and there is an absence of injurious gases, ventilation can be produced by methods employing natural draft. The force of the draft depends upon the difference between the temperature inside and outside of the building to be ventilated and the retarding effect or friction in the vents or flues. This method is more or less uncertain, as the force produced by the draft is very small and may be entirely overcome by external conditions. For this reason, a system of ventilation where the air is accelerated by some other means is preferable. This may be done in various ways, such as a hot air furnace, steam, indirect radiation or with a fan or system of fans. The latter method is to be preferred, as it may not be desirable to use steam or furnace during warm weather even though the heat is not discharged into the building.

The amount of ventilation needed is usually determined by the temperature of the air and the amount of carbonic acid gas or other impurities which the air may contain. When air pollution is due to the products of combustion given off by the excretory organs of human beings, a disagreeable odor is noticeable and the excretions may be of such a nature as to be poisonous. The amount of heat generated by a human being has to be considered and this will vary with age, activity and temperature of the surrounding air. The heat from an adult may equal about two square feet of steam radiation and for this reason the ventilation of auditoriums, schools, theatres, etc., may have two functions to perform, purifying the air and lowering the temperature.

Gases given off by various sources of artificial lighting should not be allowed to circulate in a room. They contain not only carbonic acid gas and watery vapor, but frequently sulphuric acid. Some of the new types of arc lamps give off extremely poisonous vapors. The different types of incandescent lamps are not objectionable except where there is a large number and the heat generated becomes effective.

Industrial plants where chemical processes are carried on should be carefully and thoroughly ventilated and when it is possible to discharge the gases to the outer air they should not be allowed to accumulate so that the odor is perceptible. If it is impossible to prevent a certain accumulation of the gases, sufficient fresh air should be provided to dilute the chemical products so there will be no injurious effect upon the workman.

Money spent on good ventilation is always a good investment. Workers need plenty of pure, fresh air to be efficient. Good ventilation is an economic and hygienic requisite for all work and recreation which requires people to be temporarily or permanently indoors. Since, in a large proportion of buildings, the cubic space for air supply is inadequate compared with the floor area allowed for each person, it is indispensable, wherever people congregate, to change and freshen the indoor air supply. The health, cheerfulness and efficiency of workers within doors and the physical comfort of people in theatres, auditoriums, etc., depend in a marked degree on suitable provisions for renewing the supply of fresh air and removing that which is stale or vitiated.

Proper ventilation is not only an effective preventative of mental sluggishness and headaches, but it protects the throat and lungs from dust and impurities. Another great danger of vitiated air is due to excessive heat and moisture and to odors which arise from respiration and surface excreta. These conditions are often due to organic impurities which may or may not be poisonous but nevertheless constitute an important factor in the undesirability of stale air.

An important advance in ventilation, where high efficiency in the heating of the building is also desired, is the recirculation of a part or all of the air and the purifying of same with ozone with the assistance of air washers.

Ozone machines, consuming a few watt-hours of electric energy, are now a commercial success, and the use of these machines is being recognized as a valuable adjunct to modern ventilating methods.

The designing of ventilating systems has not been reduced to an exact science. Judgment and experience in designing heating and ventilating plans are important factors. One reason for this is the lack of experimental data governing some of the most important factors entering into these calculations. This lack must be filled from the designer's experience.

Architects should prepare careful and detail specifications if a successful system of ventilation is desired, and insist on some reliable test or have the work checked over carefully before acceptance. The writer has been called in a number of times to remedy faulty systems where the contractor had made profuse verbal and written guarantees of the results that his installation would give, and when the system proved a failure, neither the owner nor the architect could obtain redress.

*Consulting Engineer, Pacific Building, San Francisco.

Display Room: 67 New Montgomery Street
San Francisco

"Pacific"

Plumbing Fixtures

Guaranteed for an unlimited period of years against defects in material and manufacture

FACTORIES: RICHMOND, CALIFORNIA

WRITE FOR OUR BOOKLET ON SCHOOL SANITATION

New Kansas City Orpheum Theater.
Continued from page 59

alleys, into which thirty odd exits dislodge the audience, thus allowing the entire house to be evacuated in two and a half minutes.

Architect Lansburgh designed the Orpheum Theater in San Francisco and in Los Angeles, two widely exploited structures, regarding which much has been written in appraisement of their beauty and comfort. Critics have classed the latter two theater buildings as the acme of such construction in this country to-day.

This latest theater of Kansas City has been pronounced an even greater triumph for Mr. Lansburgh than the San Francisco or Los Angeles buildings. Features in theater construction not before used have been introduced in this magnificent structure, and the building has been so designed with an eye for the comfort of theatergoers, that the press has been unanimous in announcing the Kansas City Orpheum Theater one of the finest buildings of its kind in the United States.

It has been said that art finds the facile clay, as the Creator found it, a most fitting medium for the embodiment of spirit. Architect Lansburgh has woven polychrome terra cotta into the architecture of his building in a masterful manner, resulting in a very charming and enlivening element of color. He has used the matt glaze to soften and harmonize all the colors into effects, achieving a superb distinction by his effort.

The outstanding characteristics of this theater are the architect's fondness for circular, semi-circular and oval forms, in plans, as well as for combining arched form with traveated construction; his fenestration, which aspects of design make this building most valuable to a student of architecture.

The Kansas City Orpheum is representative in the highest word in this era and will serve as an influential example of the architecture of our time.

Architect Lansburgh has long been recognized as a mentor in theater architecture, and his latest work is an additional reason for singling him out as representative of his day and monumental work.

Pacific Coast Chapters, A. I. A.

THE ARCHITECT is the official organ of the San Francisco Chapter of the American Institute of Architects.

San Francisco Chapter, 1881—President, William B. Faville, Balboa Building, San Francisco, Cal. Secretary, Sylvain Schnaittacher, 233 Post Street, San Francisco, Cal.

Chairman of Committee on Public Information, William Mooser, Nevada Bank Building.

Chairman of Committee on Competition, William B. Faville, Balboa Building, San Francisco.

Date of Meetings, third Thursday of every month; annual, October.

Southern California Chapter, 1894—President, A. C. Martin, 430 Higgins Building, Los Angeles, Cal. Secretary, Fernand Parmentier, Byrne Building, Los Angeles, Cal.

Chairman of Committee on Information, W. C. Pennell, Wright & Callender Building, Los Angeles.

Date of meetings, second Tuesday (except July and August), (Los Angeles).

Oregon Chapter, 1911—President, A. E. Doyle, Worcester Building, Portland, Ore. Secretary, William G. Holford, Chamber of Commerce Building, Portland, Ore.

Chairman of Committee on Public Information, William G. Holford.

Date of Meetings, third Thursday of every month (Portland); annual, October.

Washington State Chapter, 1894—President, James H. Schack, Lippy Building, Seattle, Wash. Secretary, Arthur L. Loveless, 513 Coleman Building, Seattle, Wash.

Chairman of Committee on Public Information, J. S. Cote, 520 Haight Building, Seattle.

Date of meetings, first Wednesday (except July, August and September), (at Seattle except one in spring at Tacoma); annual, November.

Colorado Chapter, 1892—President, W. E. Fisher, Railway Exchange Bldg., Denver, Col. Secretary, Aaron M. Gove, 519 Boston Bldg., Denver, Col.

Chairman of Committee on Public Information, Arthur A. Fisher, 459 Railway Exchange Building, Denver, Colo.

Date of meetings, first Monday of every month (Denver, Colo.); annual, September.

THE AMERICAN INSTITUTE OF ARCHITECTS.
The Octagon, Washington, D. C.

OFFICERS FOR 1915.

President.....R. Clipston Sturgis, Boston, Mass.
First Vice-President.....Thomas R. Kimball, Omaha, Neb.
Second Vice-President.D. Knickerbacker Boyd, Philadelphia, Pa.
Secretary.....Burt L. Fenner, New York City, N. Y.
Treasurer.....J. L. Mauran, St. Louis, Mo.

BOARD OF DIRECTORS.

For One Year.

John Hall Rankin, Philadelphia.
C. Grant LaFarge, 25 Madison Sq., N., New York, N. Y.
H. Van Buren Magonigle, 7 West 38th St., New York, N. Y.

For Two Years.

Octavius Morgan, 1126 Van Nuys Bldg., Los Angeles, Cal.
W. R. B. Willcox, Central Bldg., Seattle, Wash.
Walter Cook, New York, N. Y.

For Three Years.

Charles A. Coolidge, Boston, Mass.
Charles A. Favrot, New Orleans, La.
Elmer C. Jensen, Chicago, Ill.

SAN FRANCISCO CHAPTER, A. I. A.

There was no meeting of the San Francisco Chapter during the month of July.

♣ ♣ ♣

OREGON STATE CHAPTER, A. I. A.

Minutes of the regular meeting of the Oregon Chapter, A. I. A., held at the Commercial Club.

Meeting was called to order by Vice-President Johnson, with the following members present: Lazarus, Naramore, Fouilhoux, Hogue, Smith, Lawrence, Whitehouse, Johnson and Holford.

Moved by Whitehouse seconded by Naramore and carried that the minutes of the meeting on June 17, 1915, be approved as printed and distributed.

Committee Reports: Building Laws—Mr. Fouilhoux, Chairman, reported that the ordinance covering change in building code rec-

Harding & Seaver, Architects
Pittsfield, Mass.

CURTIS HOTEL
Lenox, Mass.

The recent roofing work was done by
W. B. Bull, of Lenox, Mass.

"Target-and-Arrow" Roofing Tin

This well-known hostelry, established in 1829, and recently rebuilt, is located in the center of the Berkshire Hills at an elevation of 1,300 feet. It has come to be known as a famous stopping place for automobile tourists, particularly those following the Ideal Tour through New England.

William D. Curtis, the proprietor, tells us that the oldest portion of the building was roofed with our **Target-and-Arrow** brand of roofing tin thirty-one years ago. The roofs of the additions made in 1898 and 1913 are also **Target-and-Arrow Tin.** These roofs are all in good order at the present time and bid fair to last as long as the building stands.

We have been supplying this durable roofing tin to American sheet metal workers for more than sixty years. It costs a little more than the other roofing tin, so you are not likely to get Taylor quality if you write a specification that permits substitution.

Stocks carried at San Francisco,
Los Angeles, Seattle and Portland

Sold Through All Leading Jobbers on the Pacific Coast and Direct From Warehouse Stock

N. & G. TAYLOR CO.
Sole Manufacturers
Established in Philadelphia in 1810

J. A. DRUMMOND
Pacific Coast Representative
725 Chronicle Bldg. San Francisco

ommended by the Chapter had been rejected by the Council. He also stated that an ordinance providing for installation of sprinklers in basements of all buildings two stories and over within the fire limits, used for manufacture, storage or sale of inflammable materials, except dwellings and fireproof buildings, had been submitted to the code revision committee. Moved by Mr. Lawrence, seconded by Mr. Whitehouse and carried that the Building Laws Committee investigate the merits of the proposed ordinance and report back to the Chapter.

Communications: Secretary read letter from Mr. Whitehouse regarding the Chapter prize to the atelier, stating that he was in receipt of a letter from Chester Treichel, also a petition from the competitors, asking for another competition. Mr. Treichel felt that he had hardly earned the prize awarded him, as the other competitors had been placed "hors concours."

Moved by Lawrence, seconded by Naramore and carried that the Chapter reconsider its former action in making the award, and that the matter be referred to the Educational Committee, with power to act.

Letter from the Institute asking for a local representative to cooperate with the National Committee on the Institute Excursion to the Pacific Coast was read. Secretary announced that the President had appointed Mr. Naramore in this capacity.

Letter from Mr. Whitnet was read and ordered filed.

Letter from August G. Headmen, enclosing report of the Architectural League of the Pacific Coast Convention, and asking for a vote on disbandment of League, was read.

After discussion, Mr. Lawrence moved, Mr. Whitehouse seconded and carried that the Secretary be instructed to cast the Chapter's vote against disbandment of the League.

Moved by Naramore and seconded by Hogue that the meeting adjourn. WM. G. HOLFORD, *Secretary.*

♠ ♠ ♠

SOUTHERN CALIFORNIA CHAPTER, A. I. A.

There was no meeting during the month of July.

♠ ♠ ♠

WASHINGTON STATE CHAPTER, A. I. A.

There was no meeting during the month of July.

A Special Rental Rate

OF

3 Months for $5

We apply rental if purchased

L. & M. Alexander & Co.

432 MARKET ST.

SAN FRANCISCO, CAL.

Agents L. C. Smith Visible Typewriter

PHONE DOUGLAS 677

Supplies for All Machines

MT. DIABLO CEMENT

Always Used Where Quality Counts

Cowell Santa Cruz Lime

Henry Cowell Lime & Cement Co.

2 Market Street, San Francisco

BRANCHES:

Oakland Sacramento San Jose Santa Cruz

Portland, Oregon Tacoma, Wash.

ELECTRICAL ILLUMINATING MECHANICAL

Charles T. Phillips

CONSULTING ENGINEER

PACIFIC BUILDING
SAN FRANCISCO

PLANS SPECIFICATIONS REPORTS

The economical production, distribution and application of light, power, heating and ventilation. Illumination efficiency. Electrolysis investigations. Estimates and tests.

SPECIFY

Nephi Plaster Only

IT MAKES THE WALL

Standard for 25 years on Pacific Coast and Intermountain West

Hardwall (finishing) Casting

Nephi Plaster & Manufacturing Co.

San Francisco Office, Builders Exchange
180 Jessie Street—Phone Sutter 6700

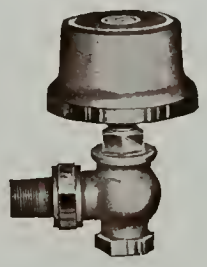
MAIN OFFICE, 711 BOSTON BUILDING
Salt Lake City, Utah

JOHNSON SERVICE CO.

(ESTABLISHED 1885)

The Johnson System of

TEMPERATURE REGULATION



The only company in California handling and installing Temperature Regulation Exclusively. You deal direct with the manufacturers. No other company can furnish a Thermostat only 4¾″ long, 2″ wide and 1″ deep, or a Sylphon Radiator Control Valve with a Metal Diaphragm.

We have installed the Johnson System of Temperature Regulation in the following Orpheum Theaters, designed by

ARCHITECT G. ALBERT LANSBURGH

ORPHEUM THEATER - - - - - SAN FRANCISCO
ORPHEUM THEATER - - - - - - LOS ANGELES
ORPHEUM THEATER - - - - - SALT LAKE CITY
ORPHEUM THEATER - - - - KANSAS CITY, MO.

and are installing the Concordia Club, San Francisco, at the present time.

149 FIFTH STREET
San Francisco

600 CITIZENS NATIONAL BANK BLDG.
Los Angeles

The Only Modern, Up to Date House Heating System

"THE HOFFMAN"

The Hoffman Heater received the Highest Prize awarded on Automatic Instantaneous Gas Water Heaters The Medal of Honor by The Panama-Pacific International Exposition

The Hoffman Heater Company

LORAIN, OHIO

PACIFIC COAST BRANCH

397 Sutter Street, San Francisco
Phone Kearny 4325

Oakland Office, 533 13th Street
Phone Oakland 2481

Los Angeles Office, 115 West 17th Street
Phone 20274

FRANKLIN COUNTY TUBERCULOSIS HOSPITAL
Columbus, Ohio.

ASBESTOS "CENTURY" SHINGLES

The Most Widely Used Artificial Roofing Slate in America

The Asbestos "Century" Shingle is composed of approximately 15 per cent of carefully selected Asbestos fibre and 85 per cent of Portland or hydraulic cement. It is made by a process which builds the material up, layer on layer, similar to the making of a book, yet each layer is part and parcel of the next layer, although, structurally, the sheet is of distinctly laminal type, possessing all of the strength, toughness and elasticity which such a process of creation must necessarily produce, precisely as nature has formed the most enduring of her works. Every material of mass-concentrated structure must have its weak and vulnerable points, parts that are weaker than others, and it is only the structure of superimposed layers where one layer strengthens the next (for their weak places cannot all occur at the same point in each layer) that can hope to produce a material of maximum strength and toughness. Of course, the pressure of nearly seven hundred tons to the square foot, which the sheet receives after it is built to its required thickness, knits it finally into the one uniform sheet, called the Asbestos "Century" Shingle, which is so exceedingly meritorious for roofing purposes.

The Asbestos "Century" Shingle is absolutely fireproof, waterproof and indestructible by all natural climatic conditions. The reports of the United States Government indicate that hydraulic cement continues to crystallize for a period covering several decades, during which time it is constantly becoming stronger and harder. The Asbestos "Century" Shingles may be likened to any other concrete construction, the Asbestos fibre being substituted, in the case of the shingle, for the reinforcing which is ordinarily used in other forms of cement structures. The Asbestos fibre is fireproof and, being a mineral substance, lends itself readily to the natural crystallization of the cement which occurs around and about the interlacing fibres, resulting in a material which has proven, through an experience of many years of service in this country and in Europe, to be impervious to the ordinary action of the elements and is practically everlasting and indestructible.

Architects should be sure to incorporate the words "Century" and either Indian Red Veneer, Indian Red or Newport Gray in your specifications and avoid substitutions.

Sold by the
KEASBEY & MATTISON CO.
Manufactured by the
ASBESTOS SHINGLE, SLATE & SHEATHING CO.
Ambler, Penna., U. S. A.

J. A. DRUMMOND
Pacific Coast Representative
725 Chronicle Bldg. San Francisco
Stock Carried in San Francisco.

THE ARCHITECT

VOLUME X · NUMBER 3 ·
· SEPTEMBER · 1915 ·

A GUARANTEE OF SATISFACTION

Paint and Varnish Specifications for School Buildings which call for materials backed by years of experience in paint manufacture are an

ABSOLUTE GUARANTEE

Pioneer White Lead
Washable Wall Finish
Concreta
Fuller Varnishes

FOR SCHOOL BUILDINGS

MANUFACTURED BY

W. P. Fuller & Co.

The Only Paint Manufacturer awarded

THE GRAND PRIZE

AT THE

Panama-Pacific International Exposition

ARE

STANDARD FOR QUALITY

NEW TECHNICAL SCHOOL, QUEBEC
Furnished throughout with Berry Brothers' Architectural Finishes

Architect
MR. R. P. LEMAY
Quebec, P. Q.

General Contractors
MESSRS. SIMONEAU & DION
Sherbrooke, P. Q.

Painting Contractors
MESSRS. MARIER & TREMBLAY, LTD.
Quebec, P. Q.

For Schools and Colleges Specify Berry Brothers' LIQUID GRANITE

It is a safe statement that there is more Liquid Granite used in schools and colleges throughout the country than any other varnish product. For gymnasiums, toilets, stairs, dormitories and schoolroom floors, it has first place.

Liquid Granite is a varnish of exceptional toughness and durability. It will give a tough, elastic finish that will withstand wear and washing with soap and water will not affect it.

In addition to Liquid Granite, Berry Brothers manufacture a line of architectural finishes for every purpose, each the best for the particular purpose for which it is made.

Feel free at all times to write our Architectural Department for varnish information.

BY INVITATION MEMBER OF

BERRY BROTHERS
(INCORPORATED)
World's Largest Varnish Makers

SAN FRANCISCO

DETROIT

WALKERVILLE, ONT.

When the Painter Uses this Enamel

$5.00 gallon

The architect may be assured of an absolutely perfect finish

Kyanize
KY-AN-IZE

White Enamel

Pure zinc and oil—A porcelain white, without brush marks or runs is the result. Guaranteed for interior or exterior use.

Boston Varnish Company, Boston, U. S. A.

San Francisco Office and Warehouse, 311 California Street

A. L. GREENE, Agent

Seattle	Tacoma	Portland	Los Angeles
CAMPBELL HDWE. CO.	**W. J. HANSON CO.**	**W. M. SMITH CO.**	**SUNSET PAINT CO.**
Coleman Dock	1129 Broadway	550 Williams Ave.	627 South Main St.

The Cooper School, San Francisco
Finished With Concreto Cement Coating

WM. SCHAFER,
Painter
San Francisco

COOPER SCHOOL
Jones and Lombard Streets,
San Francisco

HOUGHTON SAWYER,
Architect
San Francisco

The exterior cement finish of the Cooper school; exposed faces of play yard retaining walls, and the play room in the basement was finished with two coats of

THE MURALO COMPANY
CEMENT
CONCRETO
COATING
NEW BRIGHTON, N.Y.

Sole Makers **THE MURALO CO.,** New York

San Francisco Office: 311 CALIFORNIA STREET

A. L. GREENE, Agent

LOS ANGELES
SUNSET PAINT CO.
627 S. Main Street

DISTRIBUTORS

SAN FRANCISCO
D. H. RHODES
546 Valencia Street

COOPER SCHOOL
San Francisco

HOUGHTON SAWYER
Architect

RUSSWIN HARDWARE

USED THROUGHOUT

FURNISHED BY

Joost Bros.

MARKET AT LARKIN STREET

SAN FRANCISCO, CAL.

Russwin Panic-Exit Bolts

FOR

Single and Double Doors and Special

Conditions of

SCHOOLS--THEATRES--AUDITORIUMS--CHURCHES

RUSSELL & ERWIN MFG. CO.

The American Hardware Corp., Successor

New Britain, Conn.

NEW YORK CHICAGO LONDON, ENG.

San Francisco Office:
Commercial Building, 833 Market Street,
San Francisco.

Oakland Representatives:
Maxwell Hardware Company
Oakland, Cal.

WILLOWS HIGH SCHOOL, GLENN CO., CALIFORNIA — W. H. WEEKS, ARCHITECT

ENTRANCE DETAIL

Architectural Terra Cotta has contributed more to the permanent adornment of the modern school building than any other material.

Steiger Terra Cotta and Pottery Works

MANUFACTURERS

High Grade Architectural Terra Cotta

Factory—South San Francisco, Cal.
Offices—729 Mills Bldg., San Francisco

We have furnished the terra cotta for this and a score of other school buildings.

PIEDMONT SCHOOL
Piedmont, Cal.

ALBERT FARR, ARCHITECT
San Francisco

ROOFED WITH

Terra Cotta Mission Tile

Los Angeles Pressed Brick Co.

402-14 Frost Bldg., Los Angeles, Cal.

United Materials Company

5 Crossly Bldg., San Francisco, Cal.

DISTRIBUTORS FOR NORTHERN CALIFORNIA

Pacific Sewer Pipe Company

Manufacturers of

Dry Pressed, Glazed and Enameled Brick

825 East Seventh Street
Los Angeles, Cal.

WEST CLAY PARK RESIDENCE San Francisco
EDWARD G. BOLLES, ARCHITECT San Francisco
S. A. BORN, BUILDER San Francisco

Equipped With

PITCHER

Disappearing Doors
Adjustable Hangers

AND

Patented Frames

Pitcher Disappearing Doors installed in 5½ inch partitions. No extra thickness of wall required. Specify Sliding Doors in place of Swinging Doors.

WRITE FOR PARTICULARS

NATIONAL MILL & LUMBER CO.

FIFTH AND BRYANT STS. SAN FRANCISCO, CAL.

MEN'S GYMNASIUM
Stanford University

BAKEWELL & BROWN
Architects

Lincoln Spanish Roofing Tile

AND

FACE BRICK

MANUFACTURED BY

GLADDING, McBEAN & CO.

OFFICE: CROCKER BUILDING
San Francisco

FACTORY
Lincoln, California

EXECUTED IN TERRA COTTA
For the Primary School
Woodland, California

W. H. WEEKS
Architect
San Francisco

N. CLARK & SONS

MANUFACTURERS OF

Architectural Terra Cotta and

Kindred Clay Products

OFFICE: 112-116 Natoma Street
SAN FRANCISCO

FACTORY: WEST ALAMEDA
CALIFORNIA

THE ARCHITECT

VOLUME X — SAN FRANCISCO, CALIFORNIA, SEPTEMBER, 1915 — NUMBER 3

J. A. DRUMMOND, Publisher . . . . CLARENCE P. KANE, Editor

PUBLISHED IN THE INTERESTS OF THE ARCHITECTURAL PROFESSION, ON THE FIRST OF EACH MONTH, AT 725 CHRONICLE BUILDING, SAN FRANCISCO. SUBSCRIPTION IN THE UNITED STATES AND POSSESSIONS, $5.00 A YEAR; FOREIGN AND CANADIAN, $6.00 A YEAR. SINGLE COPIES, EACH 50 CENTS. ENTERED AS SECOND-CLASS MATTER AT THE POST OFFICE IN SAN FRANCISCO.

CHANGES IN, OR COPY FOR, NEW ADVERTISEMENTS MUST REACH THE OFFICE OF PUBLICATION NOT LATER THAN THE FIFTEENTH OF THE MONTH PRECEDING ISSUE. ADVERTISING RATES AND ANY OTHER INFORMATION WILL GLADLY BE GIVEN UPON APPLICATION. FORMERLY KNOWN AS THE PACIFIC COAST ARCHITECT.

THE EDITOR WILL BE PLEASED TO CONSIDER CONTRIBUTIONS, OF INTEREST TO THE PROFESSION. WHEN PAYMENT FOR SAME IS DESIRED, THIS FACT SHOULD BE STATED. TELEPHONE DOUGLAS 3424.

Editorial

* * *

American Builders to Convene

Those engaged or connected with building activities will be interested to know that "American Builders' Week" at the Panama-Pacific International Exposition, in October next, from the 18th to the 23rd, has taken on great significance, and cannot fall short of being of incalculable interest and benefit to visiting builders and other employers in building industries.

Of more than passing interest is the announcement that men, notable in branches of government and building, will be present and will address the gathering. This includes Governor Hiram W. Johnson of California, Honorable James Rolph, Mayor of San Francisco; Mr. Chas. C. Moore, President of the Panama-Pacific International Exposition. Major Geo. W. Goethals has been invited to address the building congress on the subject of Organization As Applied to Construction Work," and Mr. H. L. Lewman, President of the National Association of Builders Exchange of Louisville, Ky., will talk on "National Organization in the Building Industry—It's need."

Just as we go to press it is most gratifying to learn that R. Clipston Sturgis, President of the American Institute of Architects, has accepted an invitation to address the congress and will be present and speak on October 19th, his subject being "The American Builder."

No such opportunity, as American Builders' Week, of promoting harmony among the building fraternity of this great nation, has ever occurred before, nor could a more appropriate place or season for such a gathering have been selected.

The assembling of many thousands of builders from every city and corner of the country to participate in such a builders' celebration cannot fail to promote and foster an interchange of progressive thought upon technical and business matters, or to more firmly establish good fellowship, educational and social intercourse.

An Article by President Sturgis

While mentioning the name of President R. Clipston Sturgis, of the American Institute of Architects, we take advantage of the opportunity to inform our readers that the October issue of this publication will contain an article from the pen of Mr. Sturgis, written by him at the request of the editor of *The Architect*.

Mr. Sturgis calls special attention to the article entitled, "Important Information for the Client," prepared under the direction of Mr. Eugene H. Taylor, Secretary of the Iowa State Chapter, A. I. A., and appearing in our August issue, by presenting an analogical thesis vividly descriptive of the growth of "The Institute" and adding interesting information on chapter activities and developments, as finally encompassed. Mr. Sturgis also speaks of the benefits to the profession in general, as a result of the work of the Institute members, and refers to the need for more united action, which will come with larger membership.

This article will prove very profitable reading. It is our hope that it will provoke widespread interest, and that the "call," if we may so state it, will produce goodly response.

* * *

Faience Tile for Color Work

It has been pointed out that each year witnesses a steady increase in the use of faience tile, both in colored matte glazes and in bright Moorish designs.

The range of effects secured by the use of faience is practically unlimited, extending from the most severe and unrestrained classic to the almost barbarically gorgeous in color and form. Faience tile possesses the capability of suggesting or echoing, by arrangement and shape of the units employed, that particular type of architecture characterizing the building in which it is employed. Thus the architect has form as well as color at his disposal in the use of this material, and may, with equal facility, suggest the ordered jointing of the Grecian Temple or the cyclopean masonry of barbaric races. If he also makes use of moulded faience in low relief for decorative borders, caps and mouldings, he may fix his period almost to a day and stamp the whole as Aztec, Egyptian, Pompeian, Rococo, or what he will.

At the San Diego Exposition the color work has been most satisfying, being absolutely suited to environment and climate. Colored glazed tile was used for this purpose. In the true Spanish Colonial style, Moorish designs in high glazes have been used lavishly. It is not too much to say that, whatever visitors to San Diego may forget, they will never forget their first view of the California State Building, with its resplendent glazed tile dome and its tile ornamented massive tower.

Some Refinements in School Buildings.

By HEATH & GOVE
ARCHITECTS TACOMA BOARD OF EDUCATION

An architectural article usually starts with the pyramids and ends up with a peace oration, so that the overworked junior partner who reads it (if he ever has time to read) knows no more when he gets through about master-keying or loop-venting than he did before.

We wish to mention in this plain and homely recital some little tricks which we have learned by experience make school buildings pleasant for the school ma'am and her forty odd wrigglers. In 1904 Mr. Frederick Heath was appointed School Board Architect of Tacoma, and the firm has held down the job ever since, wholly because of the steady improvement of the buildings. Tacoma possessed at that ancient date mostly old-fashioned frame and few brick buildings, built entirely without correlation or prospect. He set to work to devise a unit plan, and all of the buildings from that time to this have been built with a definite purpose.

DETAIL OF DOORWAY
LINCOLN PARK HIGH SCHOOL, TACOMA
HEATH & GOVE, ARCHITECTS

The unit plan as adopted then has been in general adhered to in subsequent buildings. One of the main features of this plan is the utilization of the space beneath the stair landings for the entrances; thus saving considerable length in the building. Another is the placing of the fresh air and vent flues in the ends of the coat room, again saving in length of the building over plans where they are taken from the ends of the rooms, or in width where a breathing wall is used. This also avoids the beautiful jogs often seen in school plans. Another one is the location of the teachers' closets in the coat rooms; thus saving the door space in the class room for additional blackboard. The entrance doors are recessed to provide shelter from the rain without elaborate architectural porches. Ornamental wrot iron gates close these recesses at night. Collapsible gates are too flimsy and are not in keeping with a good building. We use stone steps exclusively, cement proving too slippery, and the entrances are lined with tile or ornamental brick patterns. Oak is used at entrances even where fir must be employed for interior trim. Provision is made in the heating plant of the first eight-room unit for future extensions.

One of the most radical policies of the Tacoma School Board, and one which may perhaps meet with criticism is the decision not to build fireproof buildings. The evolution of the modern school building is so rapid and the changes are so extreme, that it seemed to the board wicked to tie up immense amounts of money in absolutely permanent unchangeable structures.

In the Tacoma buildings the boiler rooms and the basement ceiling slabs are entirely fireproof, of reinforced concrete; the stairs are enclosed in fire-proof partitions, and in some of the buildings the corridor partitions are of masonry. The flooring joists of the second story and ceiling and roof are, however, of wood. The roofs are protected with slate or tile, or if flat, of heavy tar and gravel covering. Pits with removable iron gratings over them are set in the cement walls, acting effectively as foot cleaners. Basements are twelve feet as a minimum height with windows all above grade.

In the later buildings manual training and domestic science are amply provided for, as well as play rooms. All of the toilets in the grade buildings are placed in the basement. They are arranged with in and out doors, hinged to swing against iron railings so that there can be no slamming or confusion. The toilet stalls are open with wooden screens carried on gas pipe frames. All white enameled, and juvenile toilets are used throughout. All toilet fixtures are local vented, the ducts from which run into an up-take surrounding the boiler flue. Separate toilet rooms are provided for large and small children. In our larger buildings the play space in the basement is also semi-separated, so that the children are kept as much separated as possible. We go so far as to provide four entrances to the basement.

The play room floors are of Mastic Asphalt or similar composition, diminishing greatly the noise and the danger from falls from play apparatus.

The basement windows have guards inside and out, and also electric lights which are indirect have guards.

The basement ceilings are of Compo Board paneling, painted light French gray. All the heating ducts are enclosed in some sound-deafening material. All platforms and treads of stairs are of Raecolith with cast iron or brass nosings screwed on. The stairs are all of the closed string type and where wooden balustrades have had to be used they are plain square tapered balusters with plain solid bored posts. Wall hand rails are of galvanized iron with an especial fitting to anchor them into the tile walls. The run and rise of the stairs is 6"x11½". The landings are made very large. In many of the buildings wherever turning points in the circula-

tion occur the corridors are enlarged. In the Lincoln Park High Scool the auditorium is placed half way between the first and second floors, thus obviating much of the stair climbing. There have been no complaints at this building from the mothers of young buds who dance all night but find stairs fatiguing. Pale pearl colored opalescent glass is used in the High School Auditorium which gives a soft diffused light, rendering shades unnecessary. We have found this a better projector of light than prism glass.

In the high schools the room doors are set back to the inner face of the double breathing wall, thus providing additional width in the corridors. The windows are of the Whitney type with transoms, stools 3′ x4″ from floor. The sash are made 2¼″ thick and narrow on the face. We divide the glass into small lights on account of breakage, and to reduce the scale of the overpowering windows. Realizing the impossibility of providing metal sash for the ordinary school building we have enlarged windows to the utmost limit. We use a specially designed steel mullion in our group windows; thus avoiding the expense of heavy lintels and adding greatly to the stability of the structure.

In heating and ventilation we enlarge the fresh air inlets just before they enter the room, thus reducing the velocity of the air and directing its flow as desired. There are no registers on the out-take, which is lined with galvanized iron and rounded for ease in cleaning, coming directly at the floor line.

Air is recirculated by means of ducts in the attic space during the morning hours of warming the building, but no recirculation is permitted during school periods. Forty-five cubic feet of air per pupil is provided for.

Provision is made for both oil and coal as fuel, serving as a check upon dealers. Although many kinds of boilers have been used we rather incline to the good old reliable, horizontal, tubular. As the heating of most school buildings is worked out by the engineer, but one more pointer may be necessary; that is, check up your engineer. A school building is usually erected for educational purposes, and not to exploit methods of construction, heating or ventilating or special fixtures which are supposed to facilitate these processes, which, however, are only incidental.

DETAIL ENTRANCE GATE
LINCOLN PARK HIGH SCHOOL, TACOMA,
HEATH & GOVE, ARCHITECTS

The chalk trough is cut from the solid and provided with removable wire screens in sections. This has almost solved the dust problem in the class room. The blackboards are set with strips at the top and bottom and ends against three solid grounds and held with round headed brass screws. Cedar is used for the backing of the exhibit boards with burlap covering. Picture mould is placed in all rooms and corridors close to the ceiling and is tinted instead of forming a thin wooden line. The coloring of the rooms and halls has been given special attention to harmonize with the varnished wood finish. Some of the schools have had burlap wainscoting, but we are getting better results from hard plaster painted with one of the washable wall finishes. We have experimented extensively with these, and would be pleased to tell our troubles in private to other architects.

MAIN ENTRANCE DETAIL
LINCOLN PARK HIGH SCHOOL, TACOMA,
HEATH & GOVE, ARCHITECTS

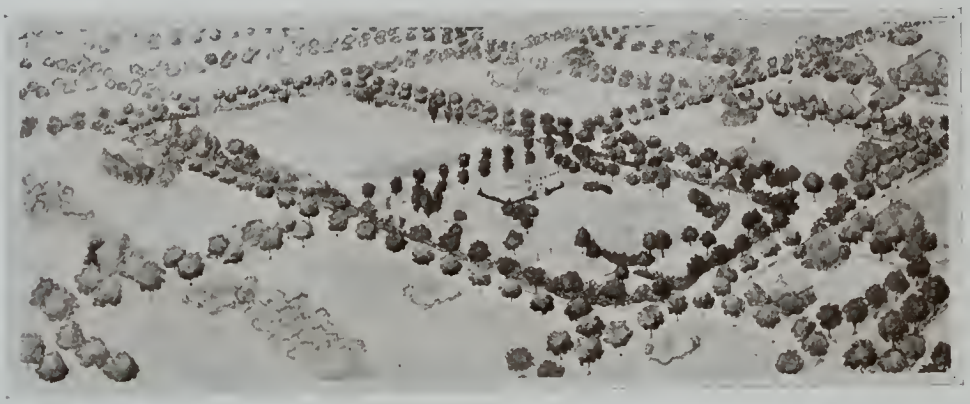
All base and trim, etc., is specified in long lengths; no joints.

Continued on page 141

Landscape Development of School Grounds

By PROFESSOR J. W. GREGG
DIVISION OF LANDSCAPE GARDENING, UNIVERSITY OF CALIFORNIA

More than three-quarters of a century ago a well known writer was far-sighted enough to sound the true note of progress in the improvement of the architecture and physical surroundings of our public schools, in the statement that "the time would come when every school building would be a temple on whose exterior the occupant could study the principles of symmetry and grace, and located in large, airy situations, overshadowed with beautiful trees and embellished with shrubbery, flowers and lawns." Continuing, the writer said, "Let the communities now so anxious to raise the standard of education, venture the experiment of a more liberal adornment of the places devoted to it."



SAN PABLO PARK, BERKELEY, CAL.

During the last half century, the spirit of the above quotations has indeed manifested itself and California stands today very high in the number and excellence of her school buildings. School architecture has improved wonderfully, not only in our large cities but in our towns and rural communities where the large union schools are becoming such important factors in the educational system of the state, but can we say as much concerning the improvement of the grounds around the majority of our school buildings? Many buildings in our cities and towns are veritable places with the surrounding grounds not materially better than they were fifty years ago. We are grateful for and proud of the great improvement in architecture, and can only express our regrets that the areas upon which these beautiful and commodious buildings have been erected, have not been more intelligently chosen, the buildings in the majority of cases better located, and the grounds more highly developed in harmony with the prevailing type of architecture.

In designing a modern school building the health and education of the student is receiving every attention. The problems involving interior arrangement, proper lighting, ventilation, and the control of temperature from both the economic and aesthetic standpoint, are receiving most careful study. All this is as it should be, but we should not forget that the proper moral, intellectual, and physical development of the student can not be controlled alone by providing beautiful and well arranged buildings. In California more than in any other state, the people lead a spontaneous, out-door life and here perhaps more than anywhere else, can great lessons be learned from Nature alone, in her magnificent school building, the great out-of-doors.

One of the first problems that should be more seriously considered by our boards of education is the selection of a proper area on which a new building is to stand. It is a perfectly natural desire to choose a site in as central a location as possible in order that distances may be shortened to accommodate the largest number of students. In the majority of cases, however, such a selection is made at a great sacrifice in size of area and a generally desirable contour of the land, and at the same time losing that most desirable element in an educational atmosphere, quietness.

School buildings are too often located on small, rough, or irregular pieces of land, bordered on all sides perhaps by street cars or other heavy, noisy traffic, or manufacturing, simply because someone having a political pull had a piece of land that they could not dispose of for any other purpose, or at anywhere near the price the city or town could be forced to pay, or because boards of education fail to appreciate the aesthetic and economic

PROPOSED PLANTING SCHEME
LAKEVIEW SCHOOL, OAKLAND, CAL.

principles involved. Upon such sites beautiful buildings are erected, hundreds, yes, thousands of dollars spent for grading and the construction or retaining walls, steps, play areas, etc., with the inevitable result that such areas will never satisfactorily accommodate student activities or permit the planting of trees, shrubs or the maintenance of lawns, so essential to the best aesthetic development.

No matter how architecturally beautiful a building may be, its appearance, as a rule, is always improved by an appropriate landscape setting, said setting consisting in the majority of cases of a large area with the building properly located and the whole embellished by the intelligent selection and arrangement of plant materials and other landscape features. Oftentimes the money spent in grading and the solution of other pre-construction problems, together with the amount paid for the land over and above a fair normal price, would be more than enough to purchase a larger, more regular and better located area, capable of being developed at a much less expense and providing all the necessary and desirable features in the form of play areas, plantings and general aesthetic development.

Every one should realize how much a proper foreground enhances the beauty of a building and how architectural effects are oftentimes entirely lost when buildings are located too near the street. But in order to make every foot of land available for play areas or other necessary features, beautiful buildings on small areas must be placed so near the street that much of their architectural beauty is lost. In such locations classrooms are noisy and dusty, and the children are discharged immediately into the street with all its impending causes for accidents.

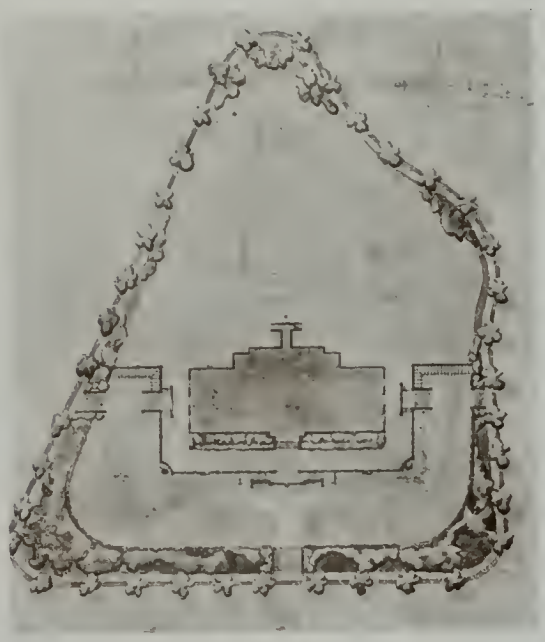
School grounds should be large enough and the building so located that play or recreational areas can be located to the rear or at one end of the area, never in front as is so often the case when we see tennis courts, basket ball courts and sordid and dust-swept areas spoiling the beautiful effect that trees, shrubs, flowers and green grass should produce. We do not locate a tennis court in front of our house where the lawn ought to be, because we believe in having open lawns bordered with shrubs, trees, flowers, etc. Why should we not just as appropriately apply the same principles of embellishment to the school homes in which the children of this country spend so much of their time, especially at an age when surroundings count so much in the upbuilding of their mental, moral and physical fiber? If the school home is to compete with the temptations round about the growing child, it must be fortified with every excellence obtainable until we can truly state that it's a poor school today that does not have attractive grounds and commodious playgrounds properly located.

Mark Hopkins on one end of a log and the young Garfield on the other might illustrate, by keen discussion, the central life of a university, but no sane man would thereby argue that extensive buildings, spacious grounds, and modern apparatus are not essential to the work the university must do today. What has been made to answer in the past will not do now; everything must be adjusted to the demands of the present and the near future. The needs of the future especially should receive more careful consideration since many of the improvements made today are intended to be permanent in character.

City planning can accomplish a great deal along this line by providing early for future needs. State, county, city and town should unite in demanding by law that before all plans for the numerous real estate subdivisions are accepted and filed, they shall show proper areas reserved for school buildings.

Walks or drives are not in themselves ornamental, and are as a rule most expensive in construction and general maintenance. They are more or less necessary, however, and may make or mar the whole scheme according as they are properly or improperly located, or as they approach the extreme in width and number. On small grounds or when the building is close to the street, a single entrance with a straight single or double walk is usually most appropriate and most serviceable, but when the grounds are large and the building is located some distance from the main street or avenue, an entrance near each front corner of the grounds with walks laid out in easy, graceful curves, furnishes a most serviceable and attractive arrangement.

The number and location of walks will be determined more or less by the number, importance and location of



PROPOSED PLANTING SCHEME
LAKEVIEW SCHOOL, OAKLAND, CAL.

entrances to the building as well as by the principal directions from which the greatest number of students come, while the width of walks should be governed by the number of students to be accommodated, and the number and relation of the walks to the architectural lines of the building. As a rule, walks are too numerous, too wide, and poorly located, and, hence, are the most conspicuous features in the whole design.

The most important elements to be considered in the embellishment of school grounds are the plant materials to be used. Nothing adds more to the beauty and suitability of such areas than a good collection of judiciously planted and well grown trees. In such material is found a great variety of useful and ornamental qualities; the evergreens in particular are valuable for the protection they afford building and play areas from the sweep of disagreeable winds, while the deciduous varieties furnish desirable shade and comfort, as they may be planted in certain sections of the state when climatic conditions warrant their use.

Continued on page 130

California School House Architecture—Past and Present.

By JOHN J. DONOVAN

The publisher has asked me to write something about California school architecture. I hesitated at first, for I hardly know where to begin and apprehended the end would find me glorifying my own small contribution to California school work. However, the happy thought struck me that I might point out some of the reasons why California has only a few good examples in this work, and in a measure, predict what the future holds forth for a State which is generous and responsive whenever education is the motive.

For the large amount of money spent in school building, California has little to show in the way of architecture in good planning and good design, and the main reason for this is the Act of 1872. In 1872 the State Legislature passed a bill making it mandatory for all School Boards and County Supervisors to advertise for plans, specifications, and details whenever the expenditure for work amounted to more than $200, just as Supervisors occasionally advertise for bids on butter, cheese and eggs.

In consequence of this Act, the field of men performing school work was limited to a few who knew the "ropes" and knew just how to "work it," in order to comply with the provisions of the Act, or better yet, who knew how to circumvent the law and succeed with the building operation. It is not that California hasn't men in the architectural profession comparable with those of other sections of the country in training and ability, that school architecture went "to rot." Not at all, for marks of their skill is evidenced at every hand, by the many charming and delightful examples scattered throughout the State. But rather the prevailing conditions surrounding school work and the methods necessary to obtain it were of such a nature and character that the best trained men never found it favorable to enter this field of their profession.

What is meant by prevailing conditions and the methods adopted is best illustrated by citing specific examples. Before doing that, however, I wish to give my observations of the average School Board. The great majority of School Board Trustees are men and women who are deeply interested in the welfare of the school and bend their efforts to accomplish the best obtainable, both in building and in teacher, for the school is the most cherished of American institutions. Many School Boards serve without any financial remuneration, and serve most faithfully and zealously, devoting almost as much time to this civic work as they do to their life's work or business.

Therefore, there can be no criticism leveled at a body which is forced to abide by a law which practically tied their hands and left them to transact a certain part of their work by the crude means at hand.

Turning to the prevailing conditions again, a school house was contemplated in a city or district, and bonds voted. Then in order to comply with the law the board must advertise for plans, specifications and details, stating the number of rooms, and, mark you, according to a strict interpretation of this law, this competitive work must be the finished product. For even an ordinary job, the course of procedure is first, the preliminary study; then several restudies in order to solve the problem conscientiously; after this, and the approval of this part of the work, follows the preparation of the working drawings. And every problem undergoes further study in the second stages, and when this part of the work is completed, the specifications follow, which, at best, are only a written interpretation of the drawings.

Now how many of these competitions could an architect enter into before reaching the state of insolvency, especially if he took his work seriously and wished to turn out work that would be creditable to himself and to his clients. The natural result was that the work narrowed down to a few who made a practice of entering these competitions and from force of circumstances were forced to "railroad" the work out of their offices as quickly and as inexpensively as the shortest cuts would permit.

Is this the practice of architecture that we have been taught to follow by our patrons, by our architectural schools and by all that is best within us, our good taste? And is this the practice of architecture that such a generous State as California deserves? The answer is this.

The architecture of many of the structures, designed and built under these conditions, is a protest louder than mere words or railings against this prostitution of the profession, and what is more important, the degrading influence of miserably designed and poorly equipped school buildings, has had a marked effect upon the public bodies interested in building work. It has been said that if one keeps step long enough with a lame man, he is bound to limp, so too, if our visions are limited to the vulgar, our taste must naturally follow, for the rule is first to abhor, then to tolerate and finally to embrace.

Many of the problems were seldom solved on their merits. By that I mean that each school house is a distinct problem in itself, just as in literature, painting, sculpture or even dressmaking, the author or artist would never think of using the same lines, the same figures, the same terse, to his work over and over again. Yet we find in some of the school work, a design, or rather a type, used over and over again in different sections of the State.

An "H" shape plan extended or contracted to include the number of rooms, over or under, required in the first problem, never an attempt at variety, and never an attempt to get away from the monotonous.

Then again we find the strained effort to apply the monumental dome and the meaningless pediment to a simple four room school. Go where you will, through the innocent districts, and there masterpieces of junk are found to flaunt their misapplied domes or their "classic" forms at you. What a pity Vignola wasn't strangled when an infant. Many a deserving community would have been spared permanent abortions. How interesting an address would prove if a particular adjective occurred in every sentence, and the address of a questionable character. This is the address in permanent materials that California has had to sit and listen to since 1872.

Notwithstanding the bad start, the State has much to anticipate in future work. The wider use of the school building and the wider use of the grounds have brought new elements, new thoughts, new inspirations and a new spirit into school work, so much so, that the plan has assumed a different form and, in consequence, a changed expression in the elevation and perspective naturally follows. The underlying principles of good class-room arrangement are constant however regarding orientation, placing of windows, floor areas, space volumnes, etc., and should be maintained at all events, but the wider

Continued on page 138

BROADWAY FACADE

REAR VIEW FROM CAMPUS, SHOWING SHOPS

OAKLAND TECHNICAL HIGH SCHOOL, OAKLAND, CAL.

JOHN J. DONOVAN, ARCHITECT, HENRY HORNBOSTLE CONSULTING ARCHITECT

SOUTH EAST VIEW

OAKLAND TECHNICAL HIGH SCHOOL, OAKLAND, CAL.

JOHN J. DONOVAN, ARCHITECT, HENRY HORNBOSTLE, CONSULTING ARCHITECT

MAIN ENTRANCE

OAKLAND TECHNICAL HIGH SCHOOL, OAKLAND, CAL.

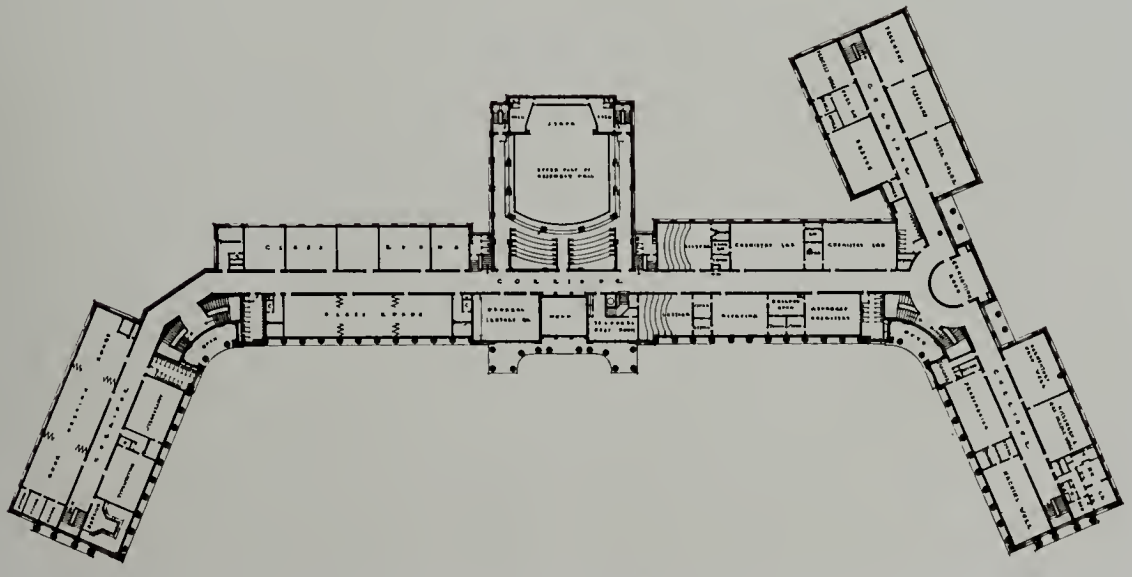
JOHN J. DONOVAN, ARCHITECT. HENRY HORNBOSTLE, CONSULTING ARCHITECT

VIEW FROM THE NORTH EAST, SHOWING FRONT OF SHOPS

OAKLAND TECHNICAL HIGH SCHOOL, OAKLAND, CAL.

JOHN J. DONOVAN, ARCHITECT, HENRY HORNBOSTLE, CONSULTING ARCHITECT

FIRST FLOOR AND PLAT PLAN



SECOND FLOOR PLAN

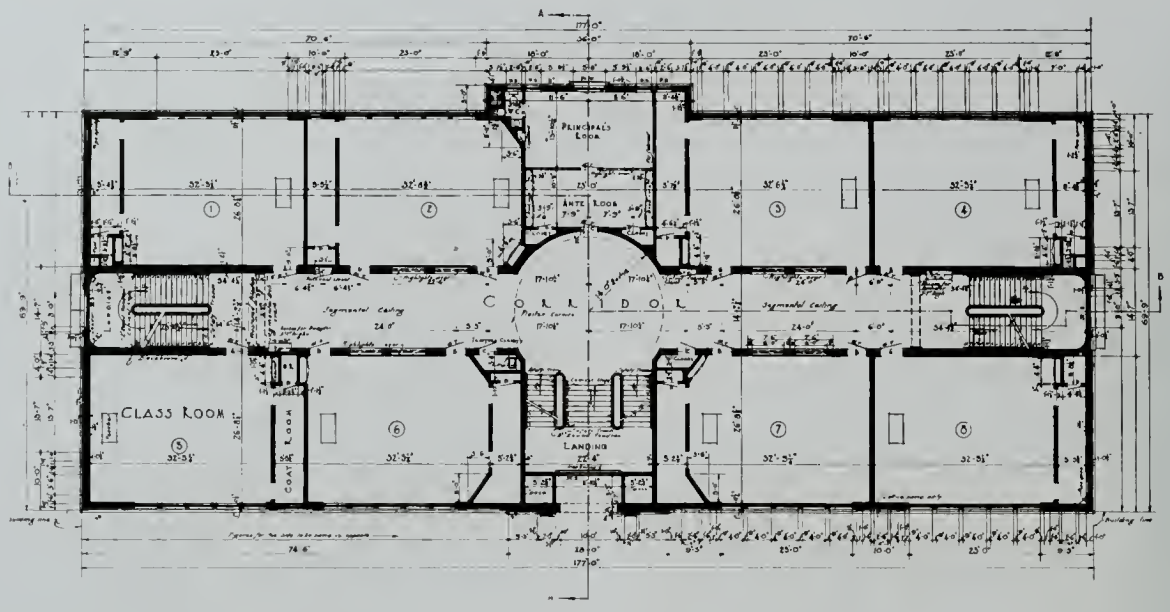
OAKLAND TECHNICAL HIGH SCHOOL, OAKLAND, CAL.
JOHN J. DONOVAN, ARCHITECT, HENRY HORNBOSTLE, CONSULTING ARCHITECT

COOPER SCHOOL, SAN FRANCISCO
HOUGHTON SAWYER, ARCHITECT

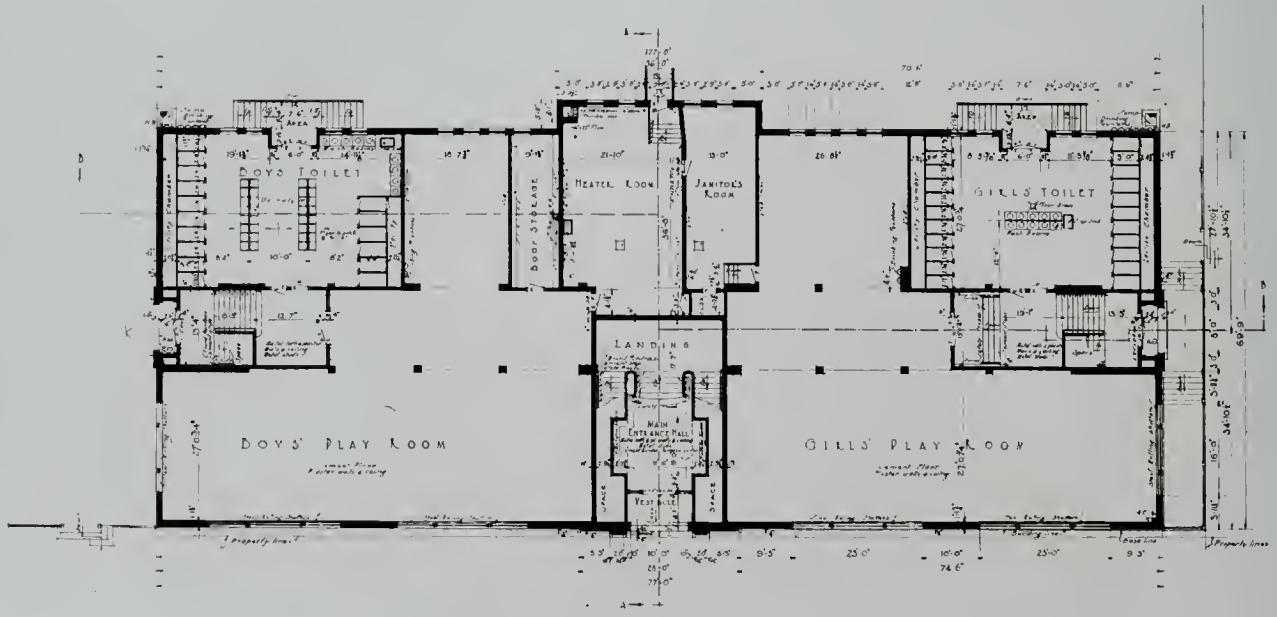
ENTRANCE DETAIL

COOPER SCHOOL, SAN FRANCISCO

HOUGHTON SAWYER, ARCHITECT

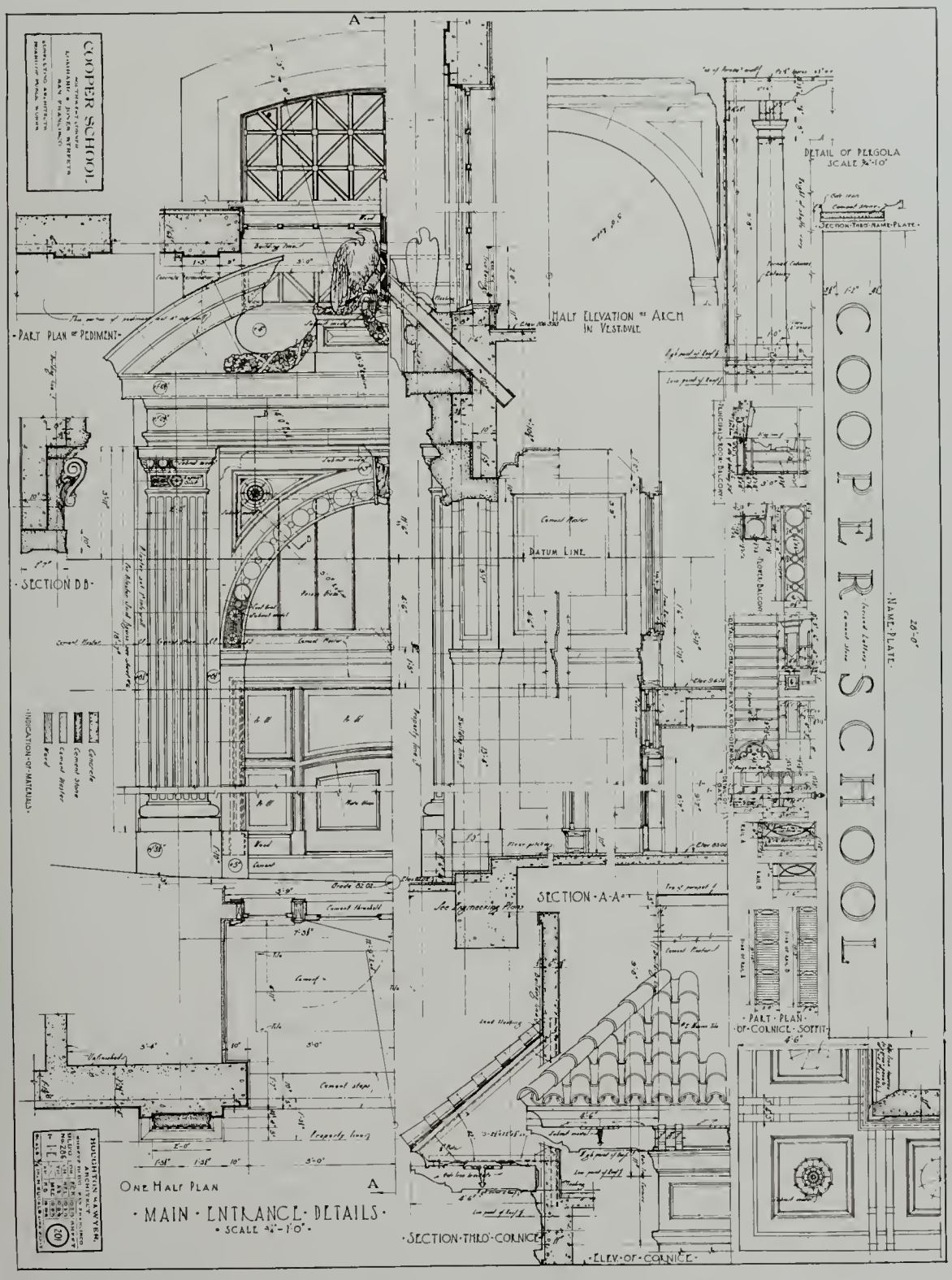


FIRST FLOOR PLAN



BASEMENT FLOOR PLAN

COOPER SCHOOL, SAN FRANCISCO
HOUGHTON SAWYER, ARCHITECT



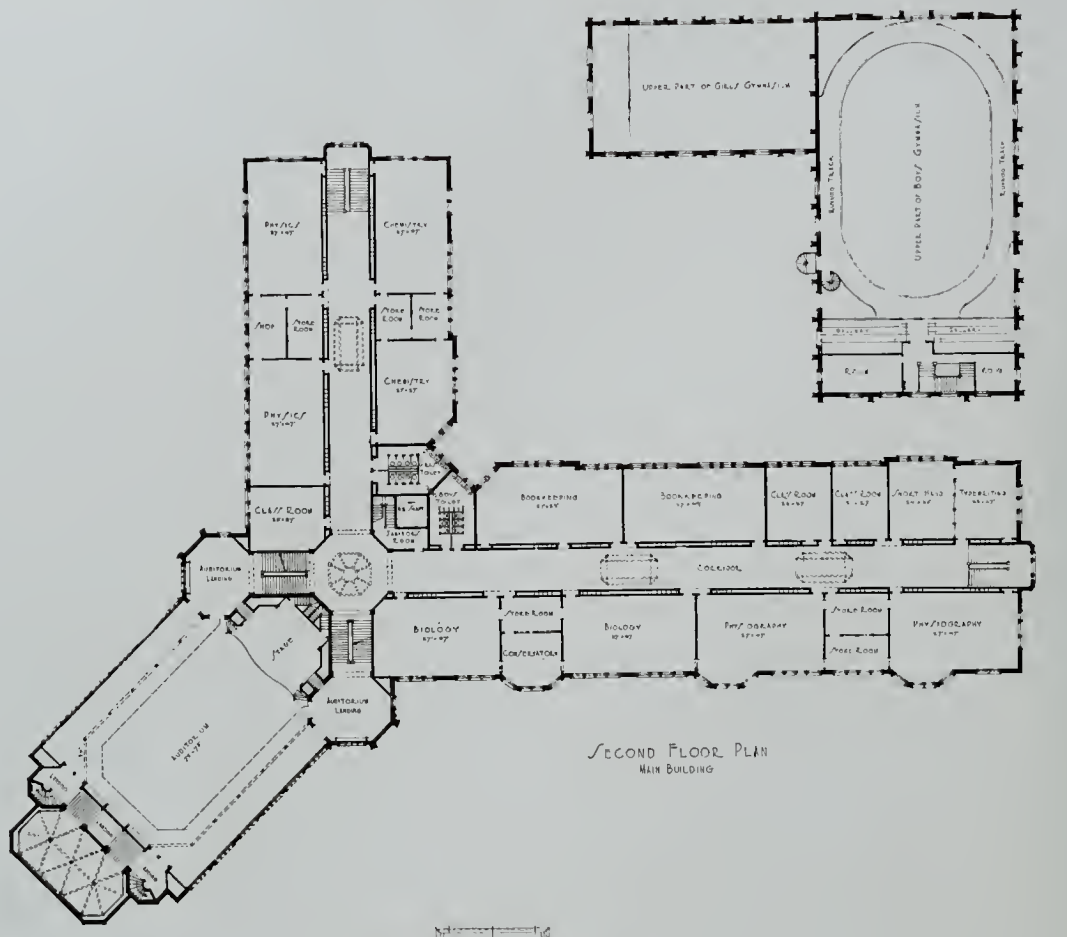
MAIN ENTRANCE DETAIL

COOPER SCHOOL, SAN FRANCISCO

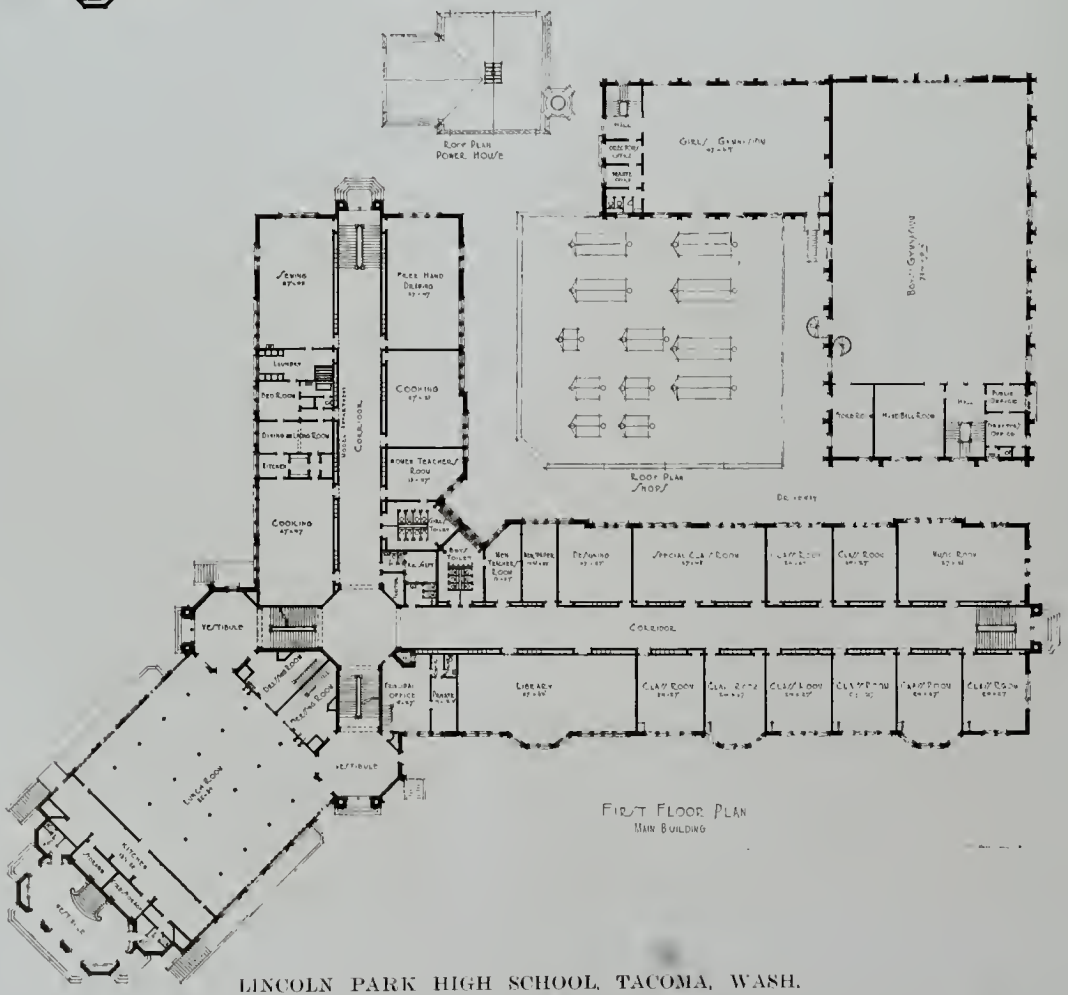
HOUGHTON SAWYER, ARCHITECT

LINCOLN PA

TOMA, WASH.
's

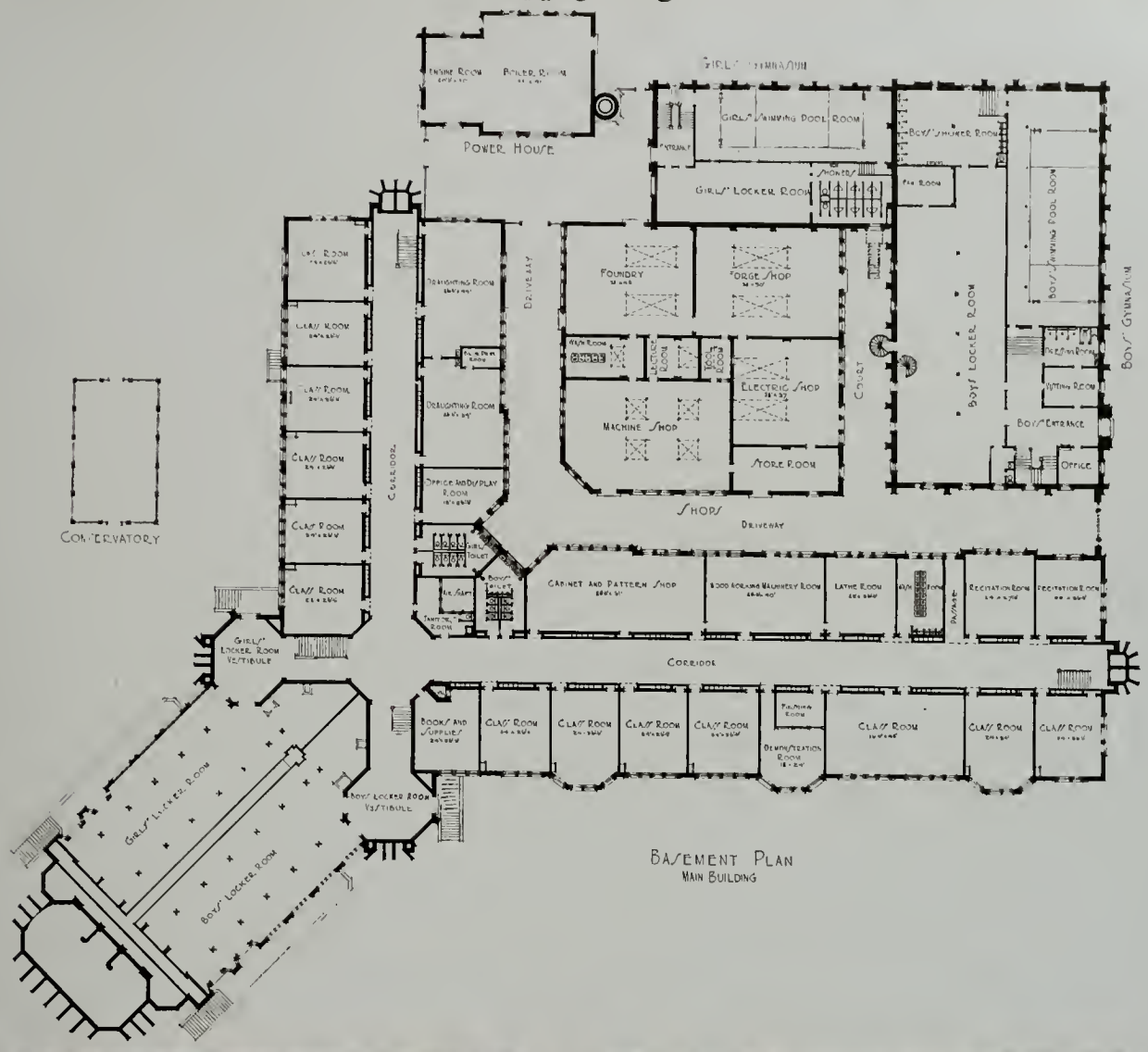


SECOND FLOOR PLAN
MAIN BUILDING



FIRST FLOOR PLAN
MAIN BUILDING

LINCOLN PARK HIGH SCHOOL, TACOMA, WASH.
HEATH & GOVE, ARCHITECTS



DETAIL OF DOORWAYS

LINCOLN PARK HIGH SCHOOL, TACOMA, WASH.

BEATH & GOVE, ARCHITECTS

THE DENMAN GRAMMAR SCHOOL, SAN FRANCISCO
LORING P. RIXFORD, ARCHITECT

MAIN ENTRANCE DETAIL

THE DENMAN GRAMMAR SCHOOL, SAN FRANCISCO
LORING P. RIXFORD, ARCHITECT

FRANKLIN HIGH SCHOOL, SEATTLE, WASH.
EDGAR BLAIR, ARCHITECT

AUDITORIUM

CORRIDOR

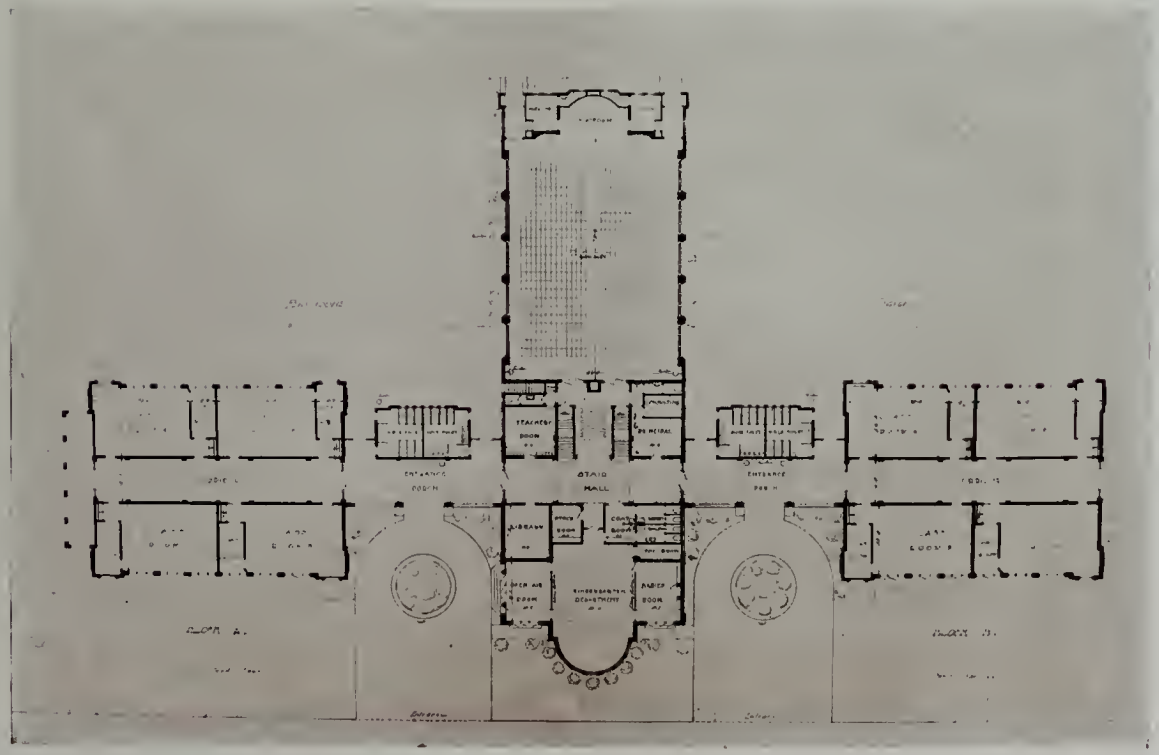
FRANKLIN HIGH SCHOOL, SEATTLE, WASH.
EDGAR BLAIR, ARCHITECT

GENERAL VIEW

LOWER-GRADE CLASSROOM SHOWING FOLDING DOORS

CORONADO SCHOOL, CORONADO, CAL.
QUAYLE BROS & CRESSEY, ARCHITECTS

VIEW THROUGH CORRIDORS



FLOOR PLAN

CORONADO SCHOOL, CORONADO, CAL.
QUAYLE BROS. & CRESSEY, ARCHITECTS

DETAIL OF FACADE

CORONADO SCHOOL, CORONADO, CAL.
QUAYLE BROS. & CRESSEY, ARCHITECTS

Description of Coronado School

This school was completed late in 1913, and is situated on what is practically an island of San Diego Bay, the general scheme being arranged for additional units balancing the present classrooms more or less without extra administrative rooms.

The Auditorium seats 600 persons in the central building, which also contains the kindergarten and staff rooms on the ground floor with rooms for domestic and ungraded work on the upper floor. A roof balcony connected with the upper rooms serves as an open-air cafeteria, the provision of meals being a feature of the school.

lighting is by electricity. General construction is reinforced concrete throughout, with natural tile main roof and composition flat roofs.

Toilets are arranged to segregate juniors from older pupils, in one-story, dis-connected, buildings, avoiding noise and incidental defects, due to sanitary fixtures within a school.

Floors are maple, in rooms, cement in corridors, and tile in toilet rooms. General trim is birch, stained, bronze green. Wainscots are enamelled. Color scheme is in Nile green and cream.

The total cost of the work, including fixtures and

CONVENIENCE OF OUT-OF-DOOR INSTRUCTION
CORONADO SCHOOL, CORONADO, CAL.

Two single story wings contain the classrooms, each room having French casement doors one full side and transoms occur full length of classrooms above the blackboards on the opposite wall, the special feature of these, apart from cross ventilation, being afternoon sunshine in east rooms and morning warmth to westerly rooms. There are no grade rooms exposed to south sun glare. The high level transoms have proved entirely successful, there being no ill effects of cross lighting, ground glass was, however, used as a precaution.

The main floor level is raised only 18 inches above, the omission of the customary school basement and resulting steps having proved advantageous in many ways and largely responsible for the system of short intermissions between periods, for open air exercise. Dismissal occurs through the casement doors, leaving the corridor and other classes undisturbed. The boiler room will provide for future additions, and an axial tunnel gives access freely to all pipe systems. Steam heating, by direct radiation is used, gravity system, and

equipment other than desks and loose furniture, amounted approximately to $90,000. Natural ventilation is relied upon entirely with good results, there being a system of fresh air inlets and exhaust throughout. The auditorium had provision for fan exhaust as auxiliary to natural outlets, but so far the fan has not proved necessary under crowded conditions.

Blackboards are natural slate from Pennsylvania.

There is a complete program clock and gong system, automatically recharged, installed to the Standard Electric Time Company's directions.

The Kindergarten is considered unique, the circular end being planned to admit sunlight for the full time of the infants' session and an open-air sun room to the south is also provided, together with a babies' room, which has a fireplace, also a toy room adjoining. The architects generally aimed to obtain a school true to California conditions, and distinct from the standard type of building original to eastern States. Quayle Bros. and Cressey, San Diego, were the architects.

The Advent of the Fireproof School in San Francisco.

By LORING P. RIXFORD

We are too prone to look upon the great fire of 1906 as a calamity and to forget the great benefits we have reaped from it.

Not the least of these benefits was the destruction by fire of the old wooden schools of San Francisco, those wood frame buildings, which were not only badly lighted and badly planned but a menace to the safety of our children.

Before the great fire San Francisco could boast of only eight schools which made any pretense at being fire-resisting, and even the new schools which had been planned and partially constructed under the old bond issue, were planned as either frame or Class "C" buildings.

Of the eight Class "C" schools which were occupied before the fire, six were built between 1854 and 1867. The two high schools, the Girls' and the Mission, were of later construction, but no better from a fire standpoint. The Girls' High School, built in 1890, was so badly damaged by the earthquake that it was thought advisable to demolish it. The Mission High School was the only brick school which went through the disaster unscathed. This building, although the Class "C" type, is fairly well arranged and will serve its purpose for a number of years. It should, however, have been built Class "A."

The great problem, and I will say, opportunity, of the Taylor administration was not only to replace the thirty schools which had been destroyed, but to rebuild them fire and earthquake proof.

The confidence of the people enabled the administration to place before the voters of San Francisco a bond issue of $5,000,000 for schools.

The money was voted as follows:

12 Class "A" Schools	$1,480,000
19 Special Construction Schools	1,685,000
3 Class "A" High Schools	1,240,000
Additional School Sites	595,000

The Class "A" schools were to be of the highest type of school construction. The "Special Construction" schools, although not strictly fireproof, were to be built with especial view towards resistance to earthquake and the wood frames were to be covered with entirely on exterior and interior and under all finish floors, with metal lath and plaster, and all woodwork necessary for finishing purposes on both exterior and interior, including frames and sash, to be covered with sheet metal.

It was the duty of the newly appointed City Architect, Mr. Newton J. Tharp, to design and construct these thirty-four new schools, and the beauty of design of a number of the earlier schools, such as the Mission Grammar, the Garfield, the Jean Parker and the Commercial High School, attest to his ability as a designer and architect.

The untimely demise of Mr. Tharp left his work uncompleted, and it was the opportunity of the writer to take up the work of the City Architect's office, construct the schools designed by Mr. Tharp and to design and construct the remaining schools.

Of the thirty-four schools called for by the bond issue of 1908, Mr. Tharp made designs for twelve, namely, the Mission Grammar, South End, Bryant Cosmopolitan, Sutro, Madison, Frank McCoppin, Garfield, Commercial High, Hancock, McKinley, Clement and Jean Parker, but was able to see only six of them started.

The writer assumed the office of City Architect June 3, 1909, supervised the making of the detail drawings of and the construction of all the schools designed by Mr. Tharp. He also made designs for the following nine schools: the Farragut, Sheridan, Denman Grammar, Franklin Grammar, Spring Valley, Cleveland, Holly Park, Longfellow and Adams, five of which (including the Denman Grammar, of which this issue of the "Architect" contains illustrations) were contracted for during his incumbency as City Architect.

The Denman Grammar School was the first Class "A" school designed by the writer on assuming the work, and is an excellent type of brick architecture as applied to fire-proof construction. It is strongly influenced in its detail by the Italian Renaissance.

The classic lines of the building give it great dignity, especially in its sightly location on the eminence at Hayes and Pierce streets, having as foreground the beautiful green trees of Alamo Square. The simple order treatment, the fluted Corinthian pilasters, with iron fill between, was an original motive as applied to school architecture. It was considered so successful that the motive was repeated with slight modification in the Girls' High School on Geary and Scott streets.

Since the writer's resignation as city architect three Class "A" schools have been built, namely, the Girls' High School, the Lowell High School and the Polytechnic High School.

May the good work continue and may the succeeding administrations be liberal enough in their appropriations for schools to enable the more important school buildings at least, to be built of Class "A" Construction, with steel frame and strictly fire-proof materials throughout.

LANDSCAPE DEVELOPMENT OF SCHOOL GROUNDS
Continued from page 106

Around the boundaries of the grounds should be planted some of the larger varieties of trees, far enough apart to permit of full development and healthy growth. Here in California there is a decided preference for the broad-leaved evergreen varieties and they should be selected according to their adaptiveness to local climatic and soil conditions. When grounds are large enough to permit of more than the boundary planting, groupings of various other kinds of trees may be made, particularly in the corners, where they will not crowd upon the play areas. Individual specimens may stand out from such groups or may be planted near the building for the purpose of shade or direct embellishment.

When Nature has so lavishly bestowed upon us such a wealth of ornamental flowering shrubs, it is surprising that they are so sparingly used. Shrubs and herbaceous materials are particularly valuable for planting on small school grounds where there is not much room for large trees. As a rule, they should be arranged in irregular masses in corners about the grounds, and particularly about the base of the building. A judicious arrangement of such material breaks the base-line of the building and ties it to the surrounding landscape. Shrubs may also be used in mass to define entrances, to emphasize curves in walks or drives, or to screen objectionable objects. They should never be scattered promiscuously as individual specimens over a large area, and should never be planted in regularly defined beds in the center of lawn areas or where they will interfere in any way with general playground features.

Panic Bolts a Necessity

The improvement in design of school buildings, theaters and auditoriums, and the increased number of exits provided has brought about a demand for devices that will permit the opening of exit doors instantly, and automatically.

It is true some State laws, and still other city ordinances have for some time provided that doors to buildings of this type open out. Now custom, if no other reason requires this.

The accompanying illustration shows a pair of entrance doors to the Oakland Technical High School equipped with the Russwin Panic Exit Bolts. This is typical of the Oakland school equipment. The doors open out; one door is bolted top and bottom, and the bolt ends are retracted and the door released by pressure on the bar running across the door. The other door is supplied with a lock that is operated from the outside, the same as any other lock, and from the inside by the bar across the door. The bars extend across the entire opening and in the event of panic or excitement, any pressure, no matter how slight against these bars will release the doors, which open out the way the "crowd" is going.

A feature of the lock used on the entrance and exit doors to the Oakland schools, is that there is no stop-work in the face of the lock, as is usual to deadlock the outside knob, or thumb latch. This function is provided by means of an inside cylinder set only to the Janitor's master key, and permits him to control the locking up of the building at all times, and prevents tampering with the locks by any one. The Latch bolts are also held in a retracted position by the inside cylinder, and both doors are supplied with door checks and are both operative at all times.

Class room doors open out into corridors, and are supplied with special type of lock, making it impossible to inadvertently lock anyone in when locked from the corridor side to prevent anyone gaining an entrance to the room.

With doors opening in the same direction taken to reach an exit, life is safeguarded, and the hardware equipment of the Oakland schools aids this ideal condition.

It has been truly said that the school holocaust is among the most terrible and pitiable of public disasters; its loss far beyond any money value. The Russwin Panic-Exit Bolts have been designed to make such catastrophes impossible. The principle of their construction is to insure certain action and absolute dependability, the pressure of a child's hand or body being sufficient to unlock them.

The bolting elements, of which there are two, one at the top and one at the bottom of the door, are made of cast bronze, and automatically lock when the door is closed. Number 787 has an easy spring action, Number 788 a special type of anti-friction latch, approved by the New York Board of Fire Underwriters. A substantial bronze bar extends horizontally across the face of the door, and, when the door is closed and bolted, a slight pressure upon the bar instantly releases the bolting elements from the strikes.

INTERIOR DETAIL OF DOORWAY IN OAKLAND TECHNICAL HIGH SCHOOL SHOWING THE APPLICATION OF RUSSWIN PANIC-EXIT BOLTS, FURNISHED THROUGH THE MAXWELL HARDWARE COMPANY

These bolts are intended for use on doors which are used only for exit and that are in daily use, as, for example, theater exit doors. The advantage of this type of bolt is in the self-latching bolts, as the action of closing the door automatically locks it, and no particular care or inspection is required to be certain that the doors are properly locked after being in use.

Russell & Erwin Manufacturing Company has issued a special catalogue on Russwin Panic-Exit Bolts, which reproduces various illustrations, showing the action of these bolts, and which has proven interesting to architects.

CUT SHOWS PROGRESS ON NEW CITY HALL, SAN FRANCISCO, BAKEWELL & BROWN, ARCHITECTS

Interior Plastering

Interior plastering is a subject of great importance in the preparation of specifications for any building. The ideal plastering mortar should be made up of materials that will not deteriorate with age, should be tough and strong, not too expensive, should not rust or corrode metal lath nor disturb the acoustics of any part of a building.

Lime mortar has been in use for many centuries and is known to be a material that will neither deteriorate with age, nor rust or corrode metals, there being records showing that iron which had been imbedded in lime mortar for fourteen hundred years was found to be in a perfect state of preservation when removed. The sound deadening property of lime mortar is an important and acknowledged characteristic. One of the most eminent acoustic experts of the country has said that for auditoriums, schools, churches theaters the use of common gypsum or hardwall plaster should be avoided on account of its lack of sound deadening properties. The one quality lacking in lime mortar to make it the universal plastering material, is strength, and to acquire this quality architects of Europe and of this country, in the highest grade buildings, have for many years been adding a percentage of Keene Cement.

MASONIC TEMPLE, SAN FRANCISCO
BLISS & FAVILLE, ARCHITECTS

Keene Cement, named after the discoverer of the process, is a material known to all builders and architects, but until recently has been considered too expensive to use generally as a gauging material for lime mortar to be used for the scratch and brown coats. There is no doubt but that this combination of materials would have been commonly used in the past if it were not for the heretofore high cost of the cement. A mixture of this cement and lime is a most consistent chemical combination, there being an affinity between the lime and the cement, thereby making a perfect combination of elements affording a strong and everlasting mortar which will not deteriorate with age, which will afford sound deadening properties, be far less likely to develop lath cracks on account of it being slower setting and be always uniform. On account of the "fatness" of the material, the cost of labor in spreading or applying is greatly reduced and the amount of waste from droppings is reduced to a minimum.

OLYMPIC CLUB, SAN FRANCISCO
PAFF & BAUR, ARCHITECTS

Keene Cement has been used extensively in the United States for a great many years in the manufacture of scagliola, or imitation marble, and for use in the finishing coat where a first class finish was required. It can now be obtained on the Pacific Coast at a cost low enough to permit of the gauging of old fashioned lime mortar and make the same stronger than the common gypsum or hardwall plasters in common use and at no greater expense. Many such buildings as shown in this article have been recently plastered throughout with

Keene Cement gauged lime mortar in the scratch and brown coats.

The plastering work in the new Five-Million-Dollar City Hall (cut shown in article) erected in San Francisco, was completed with most satisfactory results. The lime was slaked on the first floor of the building and was run by gravitation into the putty storage bins in the basement, where it was aged for at least two weeks. The mixing machine was located adjacent to the sand pile and putty storage bins and was power operated. The operation was simple and inexpensive. The specified amounts of sand, putty and Keene Cement were thoroughly mixed and then distributed in concrete carts holding six cubic feet each. This mortar can safely be remixed as often as necessary. If it starts to set up or harden on the mortar boards or where droppings have accumulated the same can be tempered by adding a small quantity of water and re-mixed. This operation will not "kill" the setting properties of the mortar. It is the absence of unsanitary retarders and the close, dense, germ-proof texture of this plaster that has been responsible for its use in a great number of schools, hospitals and other buildings where sanitation is an important factor.

POLYTECHNIC HIGH SCHOOL, SAN FRANCISCO
A. L. Worswick, City Architect; John Galen Howard, John Reid, Jr., Frederick H. Meyer, Associate Architects.

The time of set of lime mortar is accelerated by the addition of the Keene Cement, but generally takes from two to three days for the scratch coat to set sufficiently to allow the brown coat to be applied. The ultimate finish of the building is not delayed, however, for it takes no longer for this mortar to dry out than hardwall plaster. The mortar sets and hardens slowly and grows stronger and more durable the longer it stands.

PHYSICIANS BLDG., SAN FRANCISCO
Frederick H. Meyer, Architect

In some of the larger cities on the Pacific Coast, responsible mortar mixing concerns have been able to manufacture a ready-mixed mortar in accordance with architects' specifications which is delivered to buildings ready to apply on the lath. The comparatively slow "set" of Keene Cement permits the gauging of lime mortar at a mortar plant and allows ample time for delivery, as the same can be used within forty-eight hours after delivery without retempering. Economy is the result of such delivery, in saving expense of installing mixing equipment, and to have mortar delivered when needed, and thus facilitate the construction work.

The common gypsum or hardwall plasters made from gypsum or calcium sulphate (Ca So-4) are manufactured by calcining ground gypsum at a temperature of approximately 300 deg. to 340 deg. Fahrenheit for a period of from two to three hours' time and thereby driving off some of the water of crystallization and not otherwise changing the gypsum chemically. This calcined material is known as plaster of Paris and to facilitate the handling of same is retarded with animal matter to regulate the time of setting. This plaster is deliquescent and has a marked affinity for atmospheric moisture. The sulphuric element is conducive to rust and corrosion of metal.

Keene Cement is made from pure gypsum, which is calcined in kilns for several days at extremely high temperature, which completely eliminates the sulphur or corrosive element, leaving a dead, inert form of calcium as a result. This material is ground to an impalpable powder, about 95% passing a two hundred mesh screen. Chemicals of uniform quality and amount are added to a weighed amount of calcined gypsum, resulting in a perfectly uniform product, the tensile strength being above seven hundred pounds per square inch.

The scratch coat should be mixed in the proportion of one hundred and seventy-five to two hundred pounds of Keene Cement to each cubic yard of sand used. The mortar to be mixed with one part of aged lime putty to three parts sand. The brown coat can be mixed with about twenty-five per cent less cement. The finishing coat should be specified, one part Keene Cement, to from one to two parts lime putty. If a sand finish is specified it should call for one part Keene Cement to two parts clean, sharp sand.

One of the many worthy characteristics of a Keene Cement mortar is that there is no element present that will affect the most delicate tinting or frescoing, and it is real economy to cover all surfaces with this material, which forms a base that is inert, dense and permanent, and will not fade or affect any colors applied over it. The same can be applied as soon as the surface is dry.

Keene Cement gauged lime mortar, unlike gypsum or hardwall plaster, forms a perfect bond and adheres to concrete surfaces.

It is most fortunate that the art of manufacturing this cement has been carried into this country from abroad and thus make it possible to use this remarkable material in building work of all classes. Some of the purest gypsum in the world is found in America and in inexhaustible deposits.

The use of Keene Cement extends over many scores of years, and it is certainly past the experimental stage. In all cases where this plaster has been used entire satisfaction has been the general result.

T. & D. THEATER, BERKELEY, CAL.
A. W. Cornelius, Architect

A Perfect Window for Schools and Open Air Classrooms.

This window contributes a maximum of ventilation, furnishing and supplying an abundance of air even to the full capacity of its opening, and will convert schools into open air class rooms when sashes are in an open position.

position of the sashes when open the maximum of fresh air can be secured and is forced upward and inwardly into the interior of class-room, where it distributes itself to all parts and portions of room without the usual drafts which invariably is evident when ventilating by means

EMERSON SCHOOL, OAKLAND, CAL.
JOHN GALEN HOWARD, ARCHITECT — JOHN J. DONOVAN, SUPERVISING ARCHITECT

Sashes when closed form a tight contact with stops and when weather striped with Simplex weather strips, made especially for this purpose, and which forms an absolutely air-tight contact with the inner stops, makes and forms a window that is perfect in its movements and operation and unrivaled in its weather proofing, ventilating and open air features, solving all problems and supplying all requirements that could possibly be expected of a window.

For school purposes Simplex windows are usually made three sashes high and bottom sash extends down to or within six inches of the floor. Owing to the tilted

of the old style windows. Another very important feature secured by ventilating with "Simplex Windows" is the illumination of foul and exhausted air which accumulates at floor level and contains a large percentage of Carbon Dioxide Gas; this is automatically forced out through the lower sash opening and the air in class rooms is kept pure and healthful.

These windows furnish an abundance of air and light to schools and have proven themselves to be in every way satisfactory. By equipping each sash with shades the sashes, when open, forms an awning for windows and protection from the sun.

TYPICAL INTERIOR VIEW OF CLASS ROOMS, OAKLAND SCHOOLS
JOHN J. DONOVAN, ARCHITECT, OAKLAND, CAL.

Throughout the coast States, and Utah, Arizona and Texas some six hundred schools are equipped with and are using these windows, and they are being rapidly introduced and specified throughout the East.

While this window is particularly suitable for schools, it is also adapted and now in use in all kinds and classes of buildings and residences, hospitals and fireproof structures.

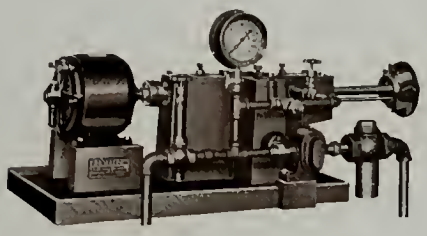
The Simplex Casement is a very artistic window and also reverses for cleaning, requiring no adjusters or other hardware to hold it open. Both types of windows can be readily and economically screened.

This latest achievement in windows is a California product.

The manufacturer and owner is The Simplex Window Company, 525 Market Street, San Francisco, and have agencies throughout the United States and foreign countries. They will be pleased to furnish catalogues, details and further information on receipt of request.

Current Notes and Comment

G. E. Witt Company's rotary oil burning system was installed in the Oakland Technical High School, Oakland, California. At this school there was developed 200 h. p. with 182.5 h. p. boiler. The amount of oil consumed and the cost of upkeep on the machine are the two greatest factors to be considered when buying a rotary oil burner. The saving made by this machine



G. E. WITT CO.'S ROTARY CRUDE OIL BURNER

over others is said to be considerable. Under test it has evaporated 15.69 pounds of water with one pound of oil. The burner has been in use in some of the largest buildings in San Francisco and Oakland; in some places running twenty-four hours per day, and three hundred and sixty-five days per year.

The G. E. Witt Company has received many letters from users of this system, stating the satisfaction this apparatus is giving, and the very simple and easy manner in which it can be taken care of. Besides the Oakland Technical High School, the Witt system has been installed in the Stanford Court Apartments, Matsonia Apartments, Federal Hotel, Sheridan Apartments and other large buildings, San Francisco. Mr. L. H. Sly, owner of the Matsonia and Stanford Court Apartments, says the system has proven entirely satisfactory, and the burners are more economical than those formerly used.

* * *

The ornamental iron work on the Cooper School, illustrated in this issue, including wrought iron fences, grilles, toilet stalls, etc., was manufactured by the Pacific Iron Works, 1155 Sixty-seventh street, Oakland, California.

The same company also furnished the ornamental iron work for a number of schools: Emerson School, Longfellow School and Tompkins School, all in Oakland; Orland High School, Monterey County High School and others. The company is thoroughly familiar with the many miscellaneous items in iron and brass required in fire houses, having executed several contracts for such work in San Francisco and across the bay. Most prominent among these is the Drumm-Street Engine House, pronounced "the model engine house" for United States.

The Pacific Iron Works is now finishing up the ornamental iron work for the Polytechnic High School in San Francisco, and has just completed a large contract of iron work for the government, installed at Pearl Harbor, Honolulu. It might be mentioned that they have been quite successful in constructing of steel, the oil supply stations, now so widely patronized by automobilists.

Besides manufacturing all kinds of ornamental iron, brass and wire work, required in public and private buildings, the Pacific Iron Works handles a very extensive line of manufactured iron fences and is about to put on the market a simplified automatic dumbwaiter, which, it is claimed, will take the place of the hand dumbwaiters, now used so extensively.

Architects, contractors and others have been unanimous in pronouncing this company thoroughly competent in handling their work and their ability to overcome all those difficulties, continuously facing the "iron man."

* * *

One of the largest and finest-finished buildings on the Pacific Coast is the $2,000,000.00 City Hall at Oakland, finished throughout with Cal-Pa-Co Flat Washable Wall Finish, manufactured by California Paint Co. of Oakland, Cal., which company was recently awarded the highest award, Gold Medal, for their product, over all others, by the P. P. I. E. Jury of Awards, who found that Cal-Pa-Co dried out with a soft flat velvety finish that was sanitary and actually washable, in that finger marks could be washed off with a high grade of soap and water without damaging the finish. Cal-Pa-Co. also was found to cover well, and to figure out remarkably cheap finish for large surfaces when the amount of surface it covers more than competitive finishes was taken into consideration, and that it never peeled, yellowed or showed gloss marks.

We understand that this fine old firm, manufacturing since 1865, also received five highest awards, including the award for the best finish for the exterior of concrete —Cal-Pa-Co Dampstop, which was the finish used on the Oakland Technical High School.

It is very gratifying to see a high-class old local concern like the California Paint Co. win out in an international competition, and we hope that the local architects will give them the support due their high class products.

* * *

During the construction of the Panama-Pacific International Exposition, the engineers selected the Fess System Rotary Crude Oil Burners for installation in the heating plants under their control. The International Jury of Awards has placed this equipment once more at the head of the list by awarding the gold medal to Fess System Rotary Crude Oil Burners, for low pressure heating boilers, and another for Fess System Range Burners—these being the highest awards possible. When this company perfected and placed on the market the Rotary Burner, it being so radically different from the method of atomizing by compressed air or steam, the skeptical ones predicted a failure. However, the results obtained have been so satisfactory that they now have many imitators, but none get the results as proven by the above awards.

* * *

The John D. Hoff Asbestos Company, whose factory is located at Pacsteel, East Oakland, is actively engaged in the various departments of the asbestos business, such as steam-pipe and boiler covering, fire-proofing and deadening.

* * *

A. C. Soule, General Manager of The Simplex Window Company, has just returned from his eastern trip and reports that final arrangements have been concluded with the Pittsburgh Plate Glass Company to handle and market their product throughout the United States, east of the Rocky Mountains. This firm is particularly well equipped for this work, having over four hundred salesmen in the field, and warehouses in all portions of the eastern territory.

Unburnable Schools

By F. W. FITZPATRICK

In matters surgical, in times of danger, people the world over agree in the theory that the child should be saved first at any cost and then its elders if possible. Apparently it is simply an inherent prompting or instinct tending toward the perpetuation of the race, the protection of those most likely to successfully carry on that work. Also in part attributable to at least a spark of chivalry left in us that prompts the protecting of the weak and defenseless.

The trait, or whatever one wishes to call it, is noticed in the care given to the construction of our schools. There is and has been a certain amount of popular opposition to the exactions of our building laws in regard to all other classes of buildings, those regulations have seemed oppressive, costly and extravagant, but there's hardly ever a protest against anything that is demanded to make our school buildings safe.

Small and poor indeed must be the town or village, or ignorant the people where a frame school building is erected today. The structural parts of school buildings are made of unburnable materials, of brick or stone or concrete or tile or stucco or wire lath, something or other that will not burn and preferably something that is not even damaged by near-by fires. The floors and partitions are of tile or concrete and steel, the stairs are unburnable and in many schools are properly enclosed in brick walls and fire doors or in wired-glass partitions so that they are even smoke proof. In fine much has been done to lessen the danger and assuring the maximum of protection to the lives of thousands and millions of children being educated by the state in state, county or municipal built structures.

Remember that the first great principle of fireproof construction is to give fire nothing to feed upon, nothing to burn. Therefore is it that we insist upon cutting up buildings into small units of space and have them so that fire originating in one space cannot communicate to the next. A fire in the contents of a class-room will burn itself out in a very little while if confined to that room, and the destruction will be only of the furniture and clothing in that room.

In the great majority of schools, even in those supposed to have been built with considerable care and with much attention to fire prevention, that cardinal principle has not been recognized. For in nearly all of them people still stick to the old notion of wooden doors and trim. They do all else fairly well but fall down there, and how human it is, too, that very trait of nearly completing a task and doing it well just to bungle it at the last by some foolish makeshift or carelessness!

With wooden doors one has not the desired divisions or units of space. Fire is given ready access to every room in the building and can only be stopped by the fire department and a flood of water that does as much damage as does the fire itself. What is the use of a fireproof partition if you nullify its quality of cutting off fire from one room to another by putting fire-inviting and highly inflammable wooden doors at convenient point? A wooden door is no more necessary or economical or desirable than is wooden clap-boarding or a wood shingle roof. The wooden door is a bad habit, ingrowing, hard to eradicate and perfectly senseless, useless and dangerous. A steel door with steel trim costs initially but little more than a wooden door. It is there for good, there is no warping and shrinking and getting out of kelter. It makes each room in a fire-resisting building a perfectly tight and unassailable unit of space. It keeps any fire that originates in that room in and any fire that originates outside of it out. It makes the carrying of insurance unnecessary. Last, but not least, it assures the positive protection of lives in that building, and in the long run, besides all the good it does and the evil it prevents, it costs less than does the wooden door.

It has taken us years to get over the bad habits of the old ways of building schools, the wooden door is the last of those habits to stick, so it's only a question of time when that too will go and when no one will tolerate anything less than steel doors in our schools—or anywhere else for that matter.

The Dahlstrom Metallic Door Company, Jamestown, N. Y., has published a new booklet, entitled "Safety First for Schools." This is the second issue of special booklets bearing on particular types of buildings, and giving reasons why Dahlstrom Products should be used in the same to insure a safe and sane fire-resisting equipment.

The booklet is well illustrated with school buildings and class rooms and is full of vital interest. It has been the experience of this company in connection with public school work, that in most cases the appropriations are entirely inadequate to enable the architect to carry out modern ideas in new school buildings and make them completely fireproof.

This booklet is designed primarily to awaken an interest in the fire-safe aspect of school buildings in the minds of members of Boards of Education and School Superintendents, so that they of their own volition, will from the beginning take steps to eliminate the obstacle of insufficient funds, the lack of which so often hampers the architect in his efforts to give the community the best.

In looking over the list of schools which have been at least partly, if not in some instances fully equipped with Dahlstrom Products, we note many of the most prominent educational institutions of this country, which speaks for the value of Dahlstrom Products.

The booklet calls attention to some of the larger disasters to school buildings, in which children have either perished or their lives have been greatly endangered by fires, stating that in the first two months in 1914, damage to the amount of $1,000,000.00 was caused by fires in schools and educational institutions, besides the loss of life, which cannot, of course, be reckoned in dollars and cents.

Wooden doors are the choicest kind of morsels for a fire. It is said that millions of dollars are expended upon the exterior of school houses to make them architecturally pretentious, but within the very walls of these structures, you will find doors, door frames, windows, window sashes and wainscoting, all of fire-inviting wood, in readiness to supply fuel to the chance flame.

The Dahlstrom Hollow Metal Doors have been subjected to severe fire tests and are approved by the Underwriters Laboratories of Chicago, as well as by the British Fire Prevention Committee of London, England. They have served their purpose in actual fires and have proved to be absolutely fireproof. Dahlstrom doors are sanitary and artistic, and built to last.

This booklet also includes a most interesting report by Mr. Charles W. Armstrong, Consulting Engineer, who has made a study of public school buildings in New York City.

WILLIAM PENN HIGH SCHOOL
Philadelphia, Pa.
J. Horace Cook, Architect, Philadelphia

The Only Way to Treat Fire

Quarantine it!

Isolate it!

Let fire be its own enemy by permitting it to starve itself!

Nothing will ever prevent fires, but a serious fire is inexcusable. Fire cannot become a hazard if a building is divided into proper units.

Fire becomes a powerful engine of destruction only in proportion to what it has to feed upon. No one determines this but yourself.

The remedy: The DAHLSTROM PRODUCTS make possible the total elimination of wood and other inflammable trim. In an otherwise fireproof building the DAHLSTROM PRODUCTS make the structure a multiple of units. Each division is virtually a separate building because fire will not, cannot eat its way from one multiple to another.

Fireproofness is not all that commends theh DAHLSTROM PRODUCTS. There's the finish — costof up-keep —sanitation, — durability — each worth understanding correctly.

May we tell you--in person or by printed word?

Dahlstrom Metallic Door Company

EXECUTIVE OFFICES AND PLANT

39 Blackstone Ave., Jamestown, N. Y.

BRANCHES AND REPRESENTATIVES IN ALL PRINCIPAL CITIES

CALIFORNIA SCHOOL HOUSE ARCHITECTURE, ETC.

Continued from page 108

use of the building has brought into play more rooms, which are different in character than the fundamental units.

Therefore, there is a wider range for schemes in plan and greater possibilities exist for good wholesome and pleasing renditions.

Furthermore, most of our School Boards are abreast of the advancements and are conscious of the new spirit permeating throughout public school instruction, and they are endeavoring to meet the wants and appeals by honest effort towards good clean transactions in their building work. Also I find they are calling in the thinking citizens of their communities to help them solve their problems. This, in time, indicates more exacting studies from the architect. They are realizing more and more that good architecture is most valuable to a community.

In return for the repeal of the Act of 1872, the State is sure to profit not only esthetically, but financially, as well. An expenditure of money in school buildings is now considered an investment and not an expense. And if a school building has been well planned and studiously designed, it is bound to be attractive and inviting, which means much to the impressionistic minds of the young children. It is for them that the investment is made, and this investment should give the greatest returns to the community in good and pleasing architecture. It seldom costs as much to build from a well studied plan as it does from a poorly designed one.

There is so much to draw from in California, such as climate, traditions, history and people, that it little behooves us to go along in a cramped fashion, poorly mimicing the styles of ancient periods just because it sounds "high-filuting" to gush about the "classic," and the "mission," befuddling the intelligent as well as the hoi-poloi. None will ever know just how many miserable failures have been cloaked by these two terms.

Instead let us strike to solve the problems fairly and truthfully, giving to each its just dues, making the most of this wonderful climate in openness and lightness of treatment, giving an expression of cheerfulness and happiness, which is just as becoming to a school as it is to an individual. Then our schools will count not only in themselves as houses for the young, but as points of interest to the community. This is what the well trained architect will give to California in return for the repeal of the Act of 1872, and in return to public bodies for their confidence and fair dealings. The anticipation of such a future is hopeful not only to the architect, but to the State.

MORE WATER EVAPORATED PER POUND OF OIL—LESS EXPENSE TO OPERATE

G. E. WITT CO.'S--1915

Rotary Crude Oil Burner Direct Driven
For High and Low Pressure Boilers

This Burner evaporated 15.69 ponnds of water with one pound of crude oil, the highest evaporation obtained from a rotary crude oil burner. This shows a boiler efficiency of 82 per cent. Send for circular.

G. E. WITT CO., Inc.

862-864 Howard Street, San Francisco

Best Plaster for
ALL CLASSES OF
BUILDINGS

WARRINGTON APARTMENTS, San Francisco — FRED H. MEYER, Architect

KEENE CEMENT GAUGED LIME MORTAR
Non Corrosive—Soundproof—Uniform
Sanitary and Inexpensive

American Keene Cement Co.
MANUFACTURERS
"STRONGEST KEENE CEMENT MADE"

Simplex Reversible Windows

Are suitable for all kinds and classes of buildings and residences. Manufactured in both wood and metal. Simple and perfect in operation. Reverses wholly outside of window. Movements, operation and reversal of sash do not interfere with the screens, curtains or shades.

Manufactured in both Standard Reversible and Casement Reversible windows. Over 75,000 Simplex windows are now in use on the Pacific Coast.

SOME EXCELLENT FEATURES

No weights or cords necessary; Sashes are noiseless—do not rattle; Weather and burglar proof; 100 per cent ventilation, draftless; Easily installed and inexpensive; Possesses all the features of a perfect window.

SEND FOR CATALOG AND OTHER DESIRED INFORMATION

Agents in all parts of United States, also Foreign Countries

Underwriters label secured

The Simplex Window Company

525 Market Street San Francisco, Calif.

OAKLAND TECHNICAL HIGH SCHOOL — J. J. DONOVAN, ARCHITECT
HENRY HORNBOSTLE, CONSULTING ARCHITECT

FURNISHED WITH

"Pacific"

Plumbing Fixtures

Guaranteed for an unlimited period of years
against defects in material and manufacture

FACTORIES: RICHMOND, CALIFORNIA

WRITE FOR OUR BOOKLET ON SCHOOL SANITATION

HEATH & GOVE, ARCHITECTS
Tacoma, Wash.

NEW LINCOLN PARK HIGH SCHOOL BUILDING
Tacoma, Wash.

A. GEHRI & CO., ROOFERS
Tacoma, Wash.

"Target-and-Arrow" Roofing Tin

The flat portion of the roof of this building is covered with 125 squares of "TARGET AND ARROW" roofing tin, laid over wood strips or battens to secure a ribbed effect. Repeated selection of this brand of tin for use on monumental school buildings of this kind is good evidence of the high reputation this old-time, hand-made product enjoys, based on nearly a century's service.

"TARGET AND ARROW" is a specialty of ours handed down from the early days of our business. In this brand we have preserved an old-time standard of manufacture for the use and benefit of present-day architects. Few buildings have had so thorough a test of time as "TARGET AND ARROW" roofing tin. It remains today the same durable quality of roofing tin that we have supplied to American sheet-metal workers for nearly two-thirds of a century. It costs a little more than other roofing tin, so you are not likely to get Taylor quality if you write a specification that permits substitution. In your sheet metal specifications where roofing tin is required, simply call for Taylor's "TARGET AND ARROW" roofing tin, to be laid in accordance with the standard working specifications of the National Association of Sheet Metal Contractors. With a responsible roofing contractor, such a specification will secure you tin roofing work of the standard that has made the old-time roofing tin a by-word for durability and all-around satisfaction in service. We furnish upon request copies of this standard tin roofing specification form, also some instructive literature, telling about this old product. Our catalog is in "Sweet's," pages 520-522 of the 1914 and 546-549 of the 1913 edition.

IC
TARGET AND ARROW
REGISTERED
TRADE MARK
N.&G.TAYLOR CO.
PHILADELPHIA

Stocks carried at San Francisco
Los Angeles, Seattle and Portland

Sold Through All Leading Jobbers on the Pacific Coast and Direct from Warehouse Stock

N. & G. TAYLOR CO.

Sole Manufacturers

Established in Philadelphia in 1810

J. A. DRUMMOND

Pacific Coast Representative

725 Chronicle Bldg., San Francisco

Mt. Diablo Cement

Always Used Where Quality Counts

COWELL SANTA CRUZ LIME

Henry Cowell Lime & Cement Co.
2 Market Street, San Francisco

BRANCHES:
Oakland Sacramento San Jose Santa Cruz
Portland, Oregon Tacoma, Wash.

"Bay State" has stood the test of 16 years

Architects east and west have tested and proved the merits of Bay State Brick and Cement Coating as a *permanent protection* against rain, snow and all kinds of weather. This coating prevents the spots, blotches and hair-cracks shown in the picture to the left.

Bay State
Brick and Cement
Coating

waterproofs concrete, stucco or plain cement, but doesn't lose the distinctive cement texture, as shown on the house to the right. It comes in white and in beautiful tints, giving the architect a wide range of artistic effects. It adds a new decorative value to the economy and durability of concrete.

Try it—we'll send you a sample can free. When you write, specify tint desired. Ask for booklet 7, too.

WADSWORTH, HOWLAND & CO., Inc.
Paint and Varnish Makers Boston, Mass.

Distributing Agents:
James Hambly & Sons, San Francisco, and Los Angeles; J. B. Winstanley Co., Portland; F. T. Crowe & Co., Seattle, Tacoma, Spokane; Jones-Moore Paint House, San Diego

SOME REFINEMENTS IN SCHOOL BUILDINGS
Continued from page 105

No slash grain wood is used. All panels built up. All are coped behind plinths, casings, etc. Great pains is taken with the grounds, and small, very plain mouldings are used on top of the base. Otherwise the trim is absolutely plain.

The second story corridor of both grade and high school rooms is made into a pretense of an art gallery, by placing large opalescent glass ceiling lights and a neat panel ceiling effect. Pictures, bas reliefs, a phonograph, a few rugs and chairs, not forgetting some flowering plants, make an environment which no kid will ever forget.

Coat rooms are ceiled and varnished, as we find it better than plastered walls, and coat hooks are placed directly against the wood rather than on racks, which require an additional foot of width, and consequent increase in the size of the building. The fresh air inlet is furred down from the ceiling so that the coat rooms do not look like tunnels, and the air enters directly in the center of the end of the room.

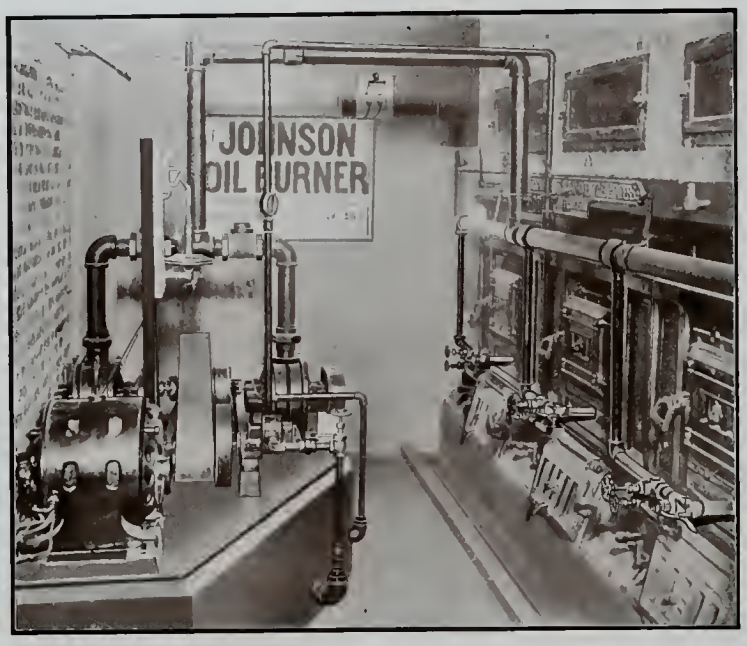
All of the hardware for each building is Master-keyed. The doors to class rooms are without a latch. They have handles on the outside, push plates on the inside, with check and spring; a spring lock with release on the inside. An interesting little recruit to the anti-noise crusade is the rubber button which we insert in holes bored in the edge of the stops of all doors. Time is lacking to tell of the experiments and failures in hardware, but beware of the expert. Common sense will unlock many a complicated problem.

The standard size for class rooms of 25'x32'12' has been used, but this will probably be reduced. Seventh and eighth grades are placed together in a departmental room. Slate blackboards are 42" wide. Exhibit board 14" wide. The bookcases have movable shelves; and glass doors, rabbeted all the way around on account of dust, are provided. These cases contain drawers and cabinets for storage, with cylinder locks. Where frame construction in corridor walls must be used special attention should be given to fire stops.

All ceilings are carefully furred, made true by wedging, 12" on centers with 1⅛" strips for conduits. All lighting is done by conduit. The lights placed out of center with the room to furnish the maximum illumination for each pupil. They are controlled in separate rows so that those nearest the windows can be turned on last.

Every School Board Architect will appreciate the thousands of little worries which have to be dislodged from the trenches in the course of so long a campaign as our firm has waged in and around Tacoma.

Finally, an effort is made to give each school a distinct architectural character, associated in some way with the name and location of the building. For instance, the Washington school is built of red brick and white stone in the Colonial style, and has the coat of arms of the "Father of His Country." The John R. Rogers school in memory of Washington's great governor of "Barefoot school boy" legislation fame, is built of concrete in a modified Mission style of architecture. It has a tablet bearing a figure of a barefoot boy and an appropriate inscription. In each building some commemorative and educational idea has been incorporated. The architectural treatment of the several schools is entirely different, and the duplication employed in most cities has been avoided.



FURNACE ROOM OF RENO HIGH SCHOOL

JOHNSON LOW PRESSURE AIR CRUDE OIL BURNERS

1337 Mission St.
SAN FRANCISCO **S. T. JOHNSON CO.** Corner Grace and Lowell Sts.
OAKLAND

School House HEATING

Is Made Perfect Only When

Johnson Crude Oil Burners

Are installed in your building and it doesn't make any difference whether the building is heated by steam, hot water or warm air, Johnson Burners can be installed in any style heater or furnace, allowing you to burn the cheapest grade of fuel oil without smoke.

JOHNSON OIL BURNERS—PAY THE HIGHEST INTEREST

It's really astonishing how quickly they pay you back in full. They are simple to operate, automatic in action and built for the highest class service.

JOHNSON'S GUARANTEE KEEPS YOU OUT OF TROUBLE

You may as well have the best and most reliable. Write for bulletin "Modern Oil Burning Equipments." A long list of satisfied customers.

BEWARE OF SUBSTITUTES AND INFRINGEMENTS

Agents in Principal Coast Cities

The Only Modern, Up to Date House Heating System

"THE HOFFMAN"

The Hoffman Heater received the Highest Prize awarded on Automatic Instantaneous Gas Water Heaters The Medal of Honor by The Panama-Pacific International Exposition

The Hoffman Heater Company

LORAIN, OHIO

Pacific Coast Branch

397 Sutter Street, San Francisco

Phone Kearny 4325

Oakland Office, 533 13th Street

Phone Oakland 2481

Los Angeles Office, 115 West 17th Street

Phone 20274

SPECIFY

GOLD MEDAL

Over all competitors
P. P. I. E.
Awarded

CALFACO FLAT WASHABLE WALL FINISH

NEVER PEELS YELLOWS GLOSSES

COVERS LIKE A BLANKET

Used on 92,000,000 Oakland City Hall, Federal Building, Central Bank, Oakland Schools, Etc.
5 P. P. I. E. HIGHEST AWARDS
Everything Reliable in Paint

California Paint Co.

12th and Pine Streets
Telephone Oakland 3623 OAKLAND, CAL., U. S. A.

TWO

Gold Medals awarded Fess System Company on Crude Oil Burners, one for mechanically atomizing burners for low pressure Heating Boilers and Hot Air Furnaces, one for Range Burners.

See Burners in operation—5th Avenue and E, Machinery Palace

Office, Factory and Demonstrating room,
220 Natoma Street

Call or write us for prices

Fess System Co.

John D. Hoff Asbestos Co.

ASBESTOS STUCCO

85 per cent Magnesia Air-Cell and Plastic Steam Pipe and Boiler Covering

Asbestos "Century" Shingles, Lumber and Corrugated Sheathing

ASBESTOS PAPER and ASBESTOS MAGNESITE HOFFITE FLOORING

Commercial Minerals and Grinding
Asbestos High Heat Cement

OFFICE AND FACTORY
Foot 22nd Avenue

EAST OAKLAND, CAL.
Phone Merritt 285

New Model Intermediate Thermostat

JOHNSON SERVICE CO.

Established in 1885

The only company on the Pacific Coast handling temperature regulation exclusively with our own corps of Skilled Mechanics.

JOHNSON THERMOSTATS ARE STANDARD

629 Lumberman's Bldg
Portland, Oregon

1104 White Bldg
Seattle, Wash.

600 Citizens National Bank Bldg.
Los Angeles

149 Fifth Street
San Francisco

PORTLAND LOS ANGELES SEATTLE

R. N. Nason & Co.

PAINT MAKERS

151 Potrero Avenue——SAN FRANCISCO——54 Pine Street

MAKERS

NASON'S OPAQUE FLAT FINISH

A flat oil paint made in soft Kalsomine Tints that is washable—a practical article for walls, ceilings, etc., that is economical and durable.

AGENCY

Tamm & Nolan Co.'s High Grade Varnishes and Finishes

The goods made on the Pacific Coast for the climate of this Coast.

Draughtsmen's Blouses

A specially designed studio and office robe, made of well-wearing material, washable, of a serviceable buff shade, offering a complete protection of clothes from wear and tear. Sent to any address, prepaid upon receipt of price.

Style A
$1.50

E. Falkenhainer

25 West 42nd Street
NEW YORK CITY

Style B
$2.00

Special discounts in lots of one dozen or more

Frederick W. Snook Company

Plumbing

596 Clay Street, San Francisco

Installed Plumbing
OAKLAND TECHNICAL HIGH SCHOOL
Oakland, Cal.

JOHN J. DONOVAN
Architect

HENRY HORNBOSTLE,
Consulting Architect

SPECIFY

NEPHI PLASTER ONLY

IT MAKES THE WALL

Standard for 25 years on Pacific Coast and Intermountain West

Hardwall finishing, Casting, Etc.

NEPHI PLASTER & MANUFACTURING CO.

San Francisco Office, Builders Exchange
180 Jessie Street—Phone Sutter 6700

MAIN OFFICE, 711 BOSTON BUILDING
Salt Lake City, Utah.

HEATH & GOVE, ARCHITECTS
Tacoma, Wash.

FRANKLIN SCHOOL BUILDING
Tacoma, Wash.

Asbestos "Century" Shingles

The Most Widely Used Artificial Roofing Slate in America

The Franklin School of Tacoma, Wash., is roofed with Asbestos "Century" shingles. It is the only kind of roof that will grow better with the lapse of time, never requires paint, does not split, crack or decay

When you specify Asbestos "Century" Shingles, Newport Gray, Indian Red Veneer, Solid Indian Red, or Slate Color, please stipulate exactly what you want and avoid inferior substitutions not made by the patented "Century" process.

Architects can safely specify Asbestos Corrugated Sheathing for roofing and siding of permenant structures such as factory buildings, warehouses, docks, train sheds, etc., in place of corrugated iron, which has greatly increased in cost. Asbestos Corrugated Sheathing is fireproof, will not rust, never requires paint, is not effected by weather conditions, made of minerals that last forever. These qualities no architect or engineer can consistently overlook.

Sold by the

Keasbey & Mattison Co.

Manufactured by the
Asbestos Shingle, Slate & Sheathing Co.
Ambler, Penna., U. S. A.

J. A. DRUMMOND

Pacific Coast Representative
725 Chronicle Bldg., San Francisco.
Stock Carried in San Francisco.

THE ARCHITECT

VOLUME X · NUMBER 4
OCTOBER · 1915

THE ETERNAL QUESTION

HOW SHALL I SPECIFY

FOR

——Iron and Steel Preservation
——Waterproofing Concrete
——Sanitary and Artistic Wall Coatings
——High Grade Enamel Work
——Permanent, Non-fading Wood Stains
——Dependable Varnishes.

Ask Paint Experts Who Know

Our Architectural Service Department is Competent and Eager to Advise you.

W. P. Fuller & Co.

SPECIALIZED PAINT AND VARNISH PRODUCTS FOR EVERY PURPOSE. THEY STAND THE TEST.

ST. JOSEPH HOSPITAL AT TACOMA

The new St. Joseph Hospital floors are finished with Berry Brothers' Varnish, sold by the A. S. Johnson Co., Tacoma. Mr. A. S. Baillarggeon, of Tacoma, is the architect. This is one of the finest hospitals in the northwest and our finishes were chosen after exhausive tests of several well-known makes. Mr. Baillarggeon gave the construction of this fine hospital his personal attention and he has every cause to be proud of it.

THE confidence of the buyer is the rock upon which all large and permanent business successes are founded.

During nearly 60 years the label of Berry Brothers has stood for what is best in Architectural Finishes, so that Berry Brothers' products have come to be considered a standard by which others are measured.

Here are some Finishes that can always be written in the specifications with absolute confidence:

LIQUID GRANITE—the durable waterproof floor finish, also adapted for bath rooms, window casings and other work where the exposure is severe. LUXEBERRY WHITE ENAMEL—whitest white—stays white—for producing an artistic and durable white finish in either gloss or dull effects.

Should you ever need information of any kind on varnish or wood finishing, feel free to write our architectural department.

BERRY BROTHERS
(INCORPORATED)
World's Largest Varnish Makers

Factories: Detroit, Mich.; Walkerville, Ont.; San Francisco, Cal.
Branches in principal cities of the world.

GLENDALE SANITARIUM
Glendale, California

GLENDALE PAINT & PAPER CO., GLENDALE, CAL.
Painting Contractors

Finished throughout with

Kyanize KY-AN-IZE

White Enamel

and

Kyanize KY-AN-IZE

Floor Finish

Specify Kyanize for high class finishing

Boston Varnish Company, Boston, U. S. A.

San Francisco Office and Warehouse, 311 California Street

A. L. GREENE, Agent

Seattle
CAMPBELL HDWE. CO.
Coleman Dock

Tacoma
W. J. HANSON CO.
1129 Broadway

Portland
W. M. SMITH CO.
550 Williams Ave.

Los Angeles
SUNSET PAINT CO.
627 South Main St.

Finished with Concreto

L. J. NEAL
Painting Contractor
San Francisco

FREDERICK STREET
between
1st Ave and Willard

PLANS PREPARED BY
Bureau of Architecture
Board of Public Works

San Francisco Polytechnic High School

Exterior Concrete work and Curbing finished with

THE MURALO COMPANY CEMENT CONCRETO COATING NEW BRIGHTON, N.Y.

TWO COATS

As specified by City Architect's Office

Sole Makers **THE MURALO CO.,** New York

San Francisco Office: 311 CALIFORNIA STREET

A. L. GREENE, Agent

LOS ANGELES
SUNSET PAINT CO.
627 S. Main Street

DISTRIBUTORS

SAN FRANCISCO
D. H. RHODES
546 Valencia Street

ROBINSON BUILDING
Los Angeles

NOONAN & RICHARDS
Architects and Engineers

The 265,000 face brick used in this building are enameled in a mottled gray and were manufactured by

Pacific Sewer Pipe Company

Los Angeles, Cal.

Plant No. 4
306 AVENUE 26, LOS ANGELES

Main Office
825 EAST SEVENTH STREET

CITIZENS NATIONAL BANK BUILDING
Los Angeles

JOHN PARKINSON & EDWIN BERGSTROM
Architects

The above recently completed building
offers convincing evidence of the beauty and perfection of our Enameled
Brick. So do hundreds of representative buildings
throughout the Pacific Coast.

Los Angeles Pressed Brick Co.

402-14 Frost Bldg., Los Angeles, Cal.

United Materials Company

5 Crossly Bldg., San Francisco, Cal.

DISTRIBUTORS FOR NORTHERN CALIFORNIA

Samples of the NEW ARCHITECTURAL TERRA COTTA, Veined through and through
Patent applied for
Mannfactured at South San Francisco, San Mateo County, Cal., by
STEIGER TERRA COTTA AND POTTERY WORKS MAIN OFFICE: 727 MILLS BUILDING, SAN FRANCISCO

Russwin Panic-Exit Bolts

FOR

Single and Double Doors and Special

Conditions of

SCHOOLS--THEATRES--AUDITORIUMS--CHURCHES

RUSSELL & ERWIN MFG. CO.

The American Hardware Corp., Successor

New Britain, Conn.

Commercial Building, 833 Markett Street, San Francisco

NEW YORK CHICAGO LONDON, ENG.

"Target-and-Arrow" Roofing Tin

UNITED STATES ARMORY BUILDING
Los Angeles, Cal.

Roofed November 1897 with "Target-and-Arrow" Roofing Tin

When the question arises: "What shall be the roof covering for a Public Building?" the Architect wants established facts before him when making the selection. The value of "TARGET AND ARROW" Roofing Tin has been demonstrated by the test of time, the only sure test. A roof of "TARGET AND ARROW" Tin lasting from 50 to 75 years is a common occurrence.

Our Catalogue is in Sweet's. Full information, including standard specifications for tin-roofing work, tables of covering capacity, weight, etc., will be sent upon request.

Stocks carried at San Francisco, Los Angeles, Seattle and Portland

Sold Through All Leading Jobbers on the Pacific Coast and Direct from Warehonee Stock

IC
TARGET AND ARROW
REGISTERED
TRADE MARK
N.&G.TAYLOR CO.
PHILADELPHIA

N. & G. TAYLOR CO.
Sole Manufacturers
Established in Philadelphia in 1810

J. A. DRUMMOND
Pacific Coast Representative
725 Chronicle Bldg., San Francisco

CITIZENS NATIONAL BANK BUILDING
Los Angeles

JOHN PARKINSON AND EDWIN BERGSTROM
Architects

Granite Enamel Architectural Terra Cotta
for the Exterior of this Building

MANUFACTURED BY

GLADDING, McBEAN & CO.

San Francisco
OFFICES CROCKER BUILDING

TRUST & SAVINGS BUILDING
Los Angeles

FACTORY
Lincoln, California

MARSH-STRONG BUILDING
Los Angeles

FRED R. DORN, ARCHITECT
Los Angeles

Matt Glazed Terra Cotta

MANUFACTURED BY

N. CLARK & SONS

OFFICE: 112-116 Natoma Street
SAN FRANCISCO

FACTORY: WEST ALAMEDA
CALIFORNIA

THE ARCHITECT

VOLUME X — SAN FRANCISCO, CALIFORNIA, OCTOBER, 1915 — NUMBER 4

J. A. DRUMMOND, Publisher . . . . CLARENCE P. KANE, Editor

PUBLISHED IN THE INTERESTS OF THE ARCHITECTURAL PROFESSION, ON THE FIRST OF EACH MONTH, AT 725 CHRONICLE BUILDING, SAN FRANCISCO. SUBSCRIPTION IN THE UNITED STATES AND POSSESSIONS, $5.00 A YEAR; FOREIGN AND CANADIAN, $6.00 A YEAR. SINGLE COPIES, EACH 50 CENTS. ENTERED AS SECOND-CLASS MATTER AT THE POST OFFICE IN SAN FRANCISCO.

CHANGES IN, OR COPY FOR, NEW ADVERTISEMENTS MUST REACH THE OFFICE OF PUBLICATION NOT LATER THAN THE FIFTEENTH OF THE MONTH PRECEDING ISSUE. ADVERTISING RATES AND ANY OTHER INFORMATION WILL GLADLY BE GIVEN UPON APPLICATION. FORMERLY KNOWN AS THE PACIFIC COAST ARCHITECT.

THE EDITOR WILL BE PLEASED TO CONSIDER CONTRIBUTIONS, OF INTEREST TO THE PROFESSION. WHEN PAYMENT FOR SAME IS DESIRED, THIS FACT SHOULD BE STATED. TELEPHONE DOUGLAS 3424.

PHILADELPHIA OFFICE: BEESON & WILSON, FORREST BUILDING.

Editorial

* * *

Bring Message to Western Architects

The meetings of the American Institute of Architects to be held under the auspices of the local Chapters in Seattle, Portland, San Francisco and Los Angeles during the early part of this month, are of more than ordinary interest and significance. Naturally, the Institute party is very much interested in the growth of the cities they are to visit and the wonders of the two Expositions, but the real import of their coming lies in the message that the officials of the Institute bring to the architectural profession.

Architects often fail to realize what may be accomplished by intelligent and unselfish cooperation and the obligation which rests on the individual of doing his part in upholding the aims and dignity of the architectural profession and the support his Chapter should receive by the unswerving loyalty of its membership. The profession is very prone to accept conditions which have resulted from only the hardest kind of missionary work on the part of the Institute, the Chapter, its officers or committees, as a sort of natural evolution, without troubling itself as to how improved conditions came about. An excuse in part for this may be found in the anomalous condition hitherto existing in the relations between the Chapters and the parent body and the organization of the Chapter membership. It has long been felt that these conditions must be corrected if the Institute is to remain a vital force.

At the 1914 convention the Committee on Chapters presented a report which forms the basis for Institute and Chapter reorganization and which is to be submitted for adoption at the 1915 convention, in the form of a new constitution and by-laws for the Institute. These Constitution and by-laws, if adopted "should put the Institute on a sound and logical basis and make it truly national in scope, as well as representative of the best in architecture in America." That all of this may be made plain to the profession on this Coast is the real mission of the Institute Officials and it is hoped that the profession in general will not only avail themselves of the opportunity of learning the purposes and aims of the Institute, but will also realize "the supreme need of everyone who is honorably practicing the profession, to do his share in this work, looking not for what he may receive, but what he may give."

* * *

Judge Taft on City Planning

"I believe that you men in charge of municipalities should call the best of experts in your plans for civic improvement," said former President Taft, in a recent address before the League of California Municipalities. "You should remember that you are dealing with men who know their business and you should be willing to pay them big fees. You cannot get something for nothing nowadays. Do not let the big fee hinder you from obtaining the big man. You have to assume the responsibility of taking a city built on wrong lines and having those wrong lines turned into right lines."

Mr. Taft spoke from wide experience and unquestioned knowledge. The importance of getting the right man for this class of work should never be disputed. No amateur or near-expert should be entrusted with the beautification of any city, whether it be of the first class or the sixth class. Upon the initial work in city planning depends the future success, and no work or planning improperly done at the start can ever be successfully revamped.

True, experts in city planning are comparatively scarce, but if a city is willing to pay the price justly due an expert on this line of work, that man or kind of a man can be secured. To be proficient in city planning, a man must not only have a knowledge of engineering, architecture and other professions, but this must be backed by many years of experience, and certainly such a man is well worth a good-sized fee.

Work of the Institute.

By R. CLIPSTON STURGIS
PRESIDENT AMERICAN INSTITUTE OF ARCHITECTS

Mr. Taylor strikes the key-note of the activities of the American Institute of Architects when he says "we desire to be doing some good in some way". He is speaking for himself but incidentally for every member of the Institute. That is the real reason why architects throughout the country should be members of the Institute; that, through its agency, they may be able to do some good for their profession.

The Institute started, a small local organization, in the East. Some twenty five years ago it joined with the Western Association and had a membership of 400. Now it has spread to the Coast and the Gulf and has over 1000 members.

This number is wholly inadequate as representing the profession in our country. It would be four times this number if all men worthy of membership were in the Institute. The work being done by the Institute is for the benefit of the profession generally and for that of the public. The thousand members bear the full financial burden of all Institute work. Out of the thousand, a small group, perhaps 200, are the real workers who give their time and thought.

This is neither fair nor satisfactory. If the burden falls on a few it often follows that action affecting the whole profession suffers from being the action of a few. The work requires not only time but money. Roughly $20,000 a year represents the income and expenditure. With membership doubled and dues cut in two, better work, because more representative, could be done. With membership trebled, and dues cut in two, work, now beyond the means of the institute, could be undertaken.

Those who follow closely the work of the Institute know something of what has been accomplished; few except the workers know what persevering effort has gone to obtain the results. For those who know neither the one nor the other it may be worth while to touch on some of the things done in the last twenty years or so. Take accomplishment in definite fields:

Education: The Institute has fostered and encouraged the education of its draughtsmen, it has entered into relations with the schools of architecture; conferences of great benefit have been held; each year these become more vital. This year it distributed to ten schools its special medal for the best general work of one student. It has also done much through the Journal, and through its committee on Public Information to educate the public.

Professional Standards: The Institute has formally announced its stand for professional uprightness and integrity and for that mutual helpfulness which should govern all professional men, and has issued its circular and Canons of Ethics, a paper prepared with the aid of many minds and edited with great care.

Competitions: From a condition when competitions varied from an indiscriminate scramble to a regular gamble the Institute has led the way toward dignified, fair and honorable competitions. The Institute

BRYAN-WESTMORELAND GARDEN, LOS ANGELES

was largely instrumental in the passage of the Tarsney Act, for Government competitions, and although this has now been repealed and nothing has as yet replaced it, its mere operation for fifteen years has raised the standard of all Government work. The Institute will continue to work for a condition even better than that under the Tarsney Act.

Mr. Taylor shows the condition existing twenty-five years ago, a condition which everyone will recognize as existing today, with all the work done by the Institute to regulate competitions, the great public, our employers, and thousands of our fellow architects still practice and apparently believe in the scramble or gamble.

Here, as in other fields, the work of the Institute is never done. It is the owner who thinks he can get something for nothing, the architect who thinks he has an inside position, and the architect who has no work and is willing to gamble for it, who continue to support the old and discredited competition. The circular of competitions and the competition program are the fruit of years of work, patient, thorough and comprehensive. The work is not ended, but a good start has been made and every architect and every owner is free to profit by this Institute product.

SCHIFFMAN JAPANESE GARDEN PASADENA

Building Standards: Years ago the Institute and the Master Builders together issued a Uniform Contract. It was the best thing that had been done and had a wide acceptance. It was, however, imperfect and now after nearly ten years of the most exhaustive study, one committee after another, one edition after another, and the expenditure of a very considerable sum, the Institute alone has issued its Agreement, General Conditions and the other papers constituting the Standard Documents. These are available to every architect, builder and owner. They are not perfect or complete, but are certainly a great advance.

The Journal: A few years ago the Institute published a quarterly Bulletin of little or no value to the Institute membership and of none whatever to those outside. The Institute accepted advertising in this paper. In place of this now there is the Journal, an official monthly publication containing all information about the Institute, its meetings, its committees and its Chapters and also the best general articles and editorials. This paper has been established by means of the capital furnished by individuals who had faith in the Institute. Before long it will be a source of revenue. It does not touch the field of our architectural papers as it publishes no current work and is a purely professional and official paper. It is difficult for anyone not familiar with Journalism to form any idea of the work involved in this, and how much of it fell on the Committee on Publication.

The Octagon: Of all the things accomplished by the Institute for the profession alone none is so important and so valuable as the acquisition of the Octagon. Those who have known the Institute only since its Octagon days can have no idea what a help it has been to the work to have a permanent headquarters. And when to that is added the fact that it is in the National Capital and is a house interesting both historically and architecturally, one can readily see what this has meant and will mean to the Institute. A few men, a small number, with large ideas, unbounded faith and the generosity of the cheerful giver, made this possible. The recent special meeting in New York was held to correct an old technical error and make our headquarters a reality. The old New York

Continued on Page 186

Landscape Architecture, an Art With a History.

By PROFESSOR J. W. GREGG
DIVISION OF LANDSCAPE GARDENING, UNIVERSITY OF CALIFORNIA

Happy is he who has a home though it be but four square walls; double happy is he if he possesses in addition a strip of mother earth; and thrice happy is he whose home grounds are bright with bud, leaf, and bloom, rejoicing the eye of the passer-by as well as the visitor within its confines and bringing happiness and content to its owner.

It has been said that "the happiest days of the human race were spent in Eden's Garden where the landscape was one of the fundamental conditions of life." The nearest approach to that "Paradise not made with hands, eternal in the heavens," is still the garden, embowered in nature's richest green, gemmed with lovely flowers and luscious fruits, and where under one's own "vine and fig tree," one can rest or wander at will. The landscape is still one of the fundamental conditions of human existence and our chief teacher in the world of beauty. Why then should we not seek to become more intimately acquainted with some of the fundamental principles that govern correct landscape design, appreciate it as we do other fine arts and recognize it as we do other professions.

A fine art has been defined as "that practice which seeks to create organized beauty but uniting several dissimilar elements in one harmonious whole, in such a way as to produce a refined and pleasing impression." Landscape architecture is the practice of arranging the surface of the land together with all the various elements on the surface, for human use, habitation, convenience, and enjoyment in such a way as to create a beautiful picture or composition possessing all the economic and aesthetic qualities of an organized whole. It is the correct expression of an ideal conceived by the human mind and as such is an art. Indeed it is a fine art and can be classed with such other fine arts as architecture, painting, sculpture, literature and music. Literature is recognized as an art and is claimed by many to have been the foundation of human existence. History however, seems to indicate clearly that the landscape was the real foundation of human existence, thereby classifying literature as a product of that existence. Which is the older, therefore, landscape or literature? In the light of the rather modern interpretation of the art of landscape design and its present vogue, people have a tendency to recognize it only as a new idea, having behind it no precedent, and no history productive of principles and standards similar to those governing other arts and sciences. One has but to look back of its present vogue, however to discover that this is one of the very oldest of arts with a history that is quite as interesting, quite as long, and quite as productive of correct principles and standards by which we can as efficiently and aesthetically govern and measure correct design today, as did the early Egyptians centuries ago. The early history of the art seems to indicate it originated first for the purpose of supplying a primitive economic want, and later to satisfy a desire for luxury and refinement.

VILLA EGYPTIENNE

JARDINS DE L'HOTEL SAINT-PAUL

Descriptions of such ancient gardens are found in the Bible, in old paintings, sculpture, and manuscripts, especially those from Egypt, Italy, and Greece. Landscape gardening, therefore, appears coeval with the earliest tradition. The Garden of Eden had every tree good for food or pleasing to the sight. Solomon says, "I planted me vineyards; I made me gardens and I planted trees in them of all kinds." The Egyptians and Persians and other remote nations prided themselves on their beautiful gardens and estates. The most conspicuous example of the art among the ancients were the great hanging gardens of Babylon; a series of terraces supported by stone pillars, rising one above the other, three hundred feet in height and planted with all manner of stately trees, shrubs, and flowers, interspersed with seats, and fountains, furnished with water from the Euphrates, all the effort of a great king to recall to his Median queen the beauties of her native country.

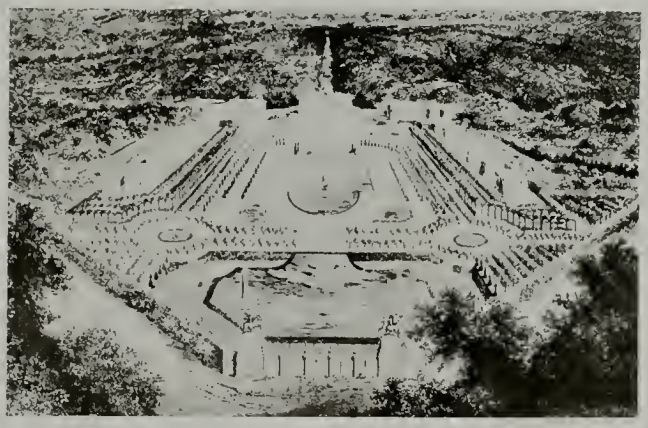
The celebrated Athenian philosophers made their sylvan landscapes their favorite schools. The gardens of Epicurus and Plato appear to have been symmetrical groves of olive, palm and elm, adorned with elegant statues, monuments, and temples, the beauty of which for their particular purpose has never been surpassed by any examples

JARDINS SUSPENDUS DE BABYLONE

JARDINS BOBOLA A FLORENCE

of modern times. The villa grounds of the Emperors Nero and Adrian were enriched with everything magnificent and pleasing, while the classically famous villas of Cicero and Pliny are among the most celebrated specimens of the taste of the ancients.

Homer's famous description of the grounds of the Palace of Alcinous show how beautiful these must have been and how carefully the Greeks studied and thought out all such problems. No people before or since were ever more thoughtful of matters of design in the arrangement of their grounds and the placing of their statuary and buildings to fit the slightest bit of unusualness of topography. All this is very different from gardening, and here, as in Egypt, we note the application of true principles of design. The Roman conquerors took these thoughtful designers of the best landscape art of the Greeks, together with their other artists, to Rome, and as a result, Roman estates and villas reflect this fine Greek influence. The greater wealth available and the changed physical conditions brought forth from the fertile brains of these designers new forms of landscape art evidenced by the ruins of the great Roman and Pompeiian estates and gardens that have come down to us. Here are shown not only the ideas of Egypt and Greece modified to meet new conditions, but careful consideration of the questions of distant views and vistas. It is clear that these men planned to have informality at a distance from their palaces and formal terrace close by. There was a thorough appreciation of the need of the same architectural style throughout—in a word, unity. This is again correct design and what we are seeking for today.



VUE DU CHATEAU ET DU PARC DE MARLY

We find among the Romans some of the best and very earliest carefully designed city squares and public parks. These in some cases were first designed for the private grounds of the emperor and others, but later given to the people partly to gain popularity. In the preparation of them, houses were removed and the resultant space treated as open public grounds laid out with rare skill and dedicated later to the use of the people. Fitness, definiteness of purpose, a careful consideration of the question of scale as well as beauty and art and unity were all studied, and, as a result we can today, to our very great advantage, study these designs in connection with our own efforts in planning public parks and squares.

The habit of setting aside such areas for the recreation of the people grew apace, and the question of their distribution throughout the city was studied with care, and as a result Rome was very well supplied with parks and they were particularly well distributed. Under the empire the park areas of Rome were one-eighth of the total area of the city. We today are struggling with this part of the problem in our own city planning.

Then came the setback of the so-called dark ages, but the flame thus lighted was never completely extinguished and finally burst forth again in the Renaissance more gloriously than ever. Even in the mediaeval times we find evidences of an effort at design in gardens and grounds, but there was more or less similarity to the work of the Greeks in this respect.

Mediaeval designers were, however, influenced by limited financial and other resources, and by lack of labor

Continued on Page 186

A. I. A. Members Meet in San Francisco

A MEETING will be held on Friday, October 8th, in the Italian Room of the St. Francis Hotel at 2 o'clock in the afternoon. It will be under the auspices of the San Francisco Chapter of the A. I. A. All Architects, Architectural Draftsmen and Students of Architecture are invited to be present at this important gathering.

The President of the American Institute of Architects, Mr. R. Clipston Sturgis, and the Officials who are accompanying him from the East, will explain the aims of the Institute in its relation to the Profession of Architecture and what it is endeavoring to accomplish. It is hoped that all Architects practising in the State and those visiting the Exposition will endeavor to attend this meeting and urge their Draftsmen to be present.

At 3:30 P. M. of Monday, October 11th, which the Officials of the Panama-Pacific Exposition have selected as Architects' Day, President Charles C. Moore will present to the President of the American Institute of Architects a Commemorative Scroll in recognition of the Architectural profession. This presentation will take place in the Court of the Universe.

You are urged to be present at these two meetings and make them Memorable Days in the History of the American Institute of Architects.

W. B. FAVILLE,
President.

SYLVAIN SCHNAITTACHER,
Secretary.

CITIZENS NATIONAL BANK BUILDING, LOS ANGELES
JOHN PARKINSON AND EDWIN BERGSTROM, ARCHITECTS

GROUND FLOOR ELEVATOR HALL

CITIZENS NATIONAL BANK BUILDING, LOS ANGELES

JOHN PARKINSON AND EDWIN BERGSTROM, ARCHITECTS

ENTRANCE TO BANK

CITIZENS NATIONAL BANK BUILDING, LOS ANGELES

JOHN PARKINSON AND EDWIN BERGSTROM, ARCHITECTS

DETAIL OF UPPER STORIES

CITIZENS NATIONAL BANK BUILDING, LOS ANGELES

JOHN PARKINSON AND EDWIN BERGSTROM, ARCHITECTS

DETAIL OF FIRST AND SECOND STORIES

CITIZENS NATIONAL BANK BUILDING, LOS ANGELES

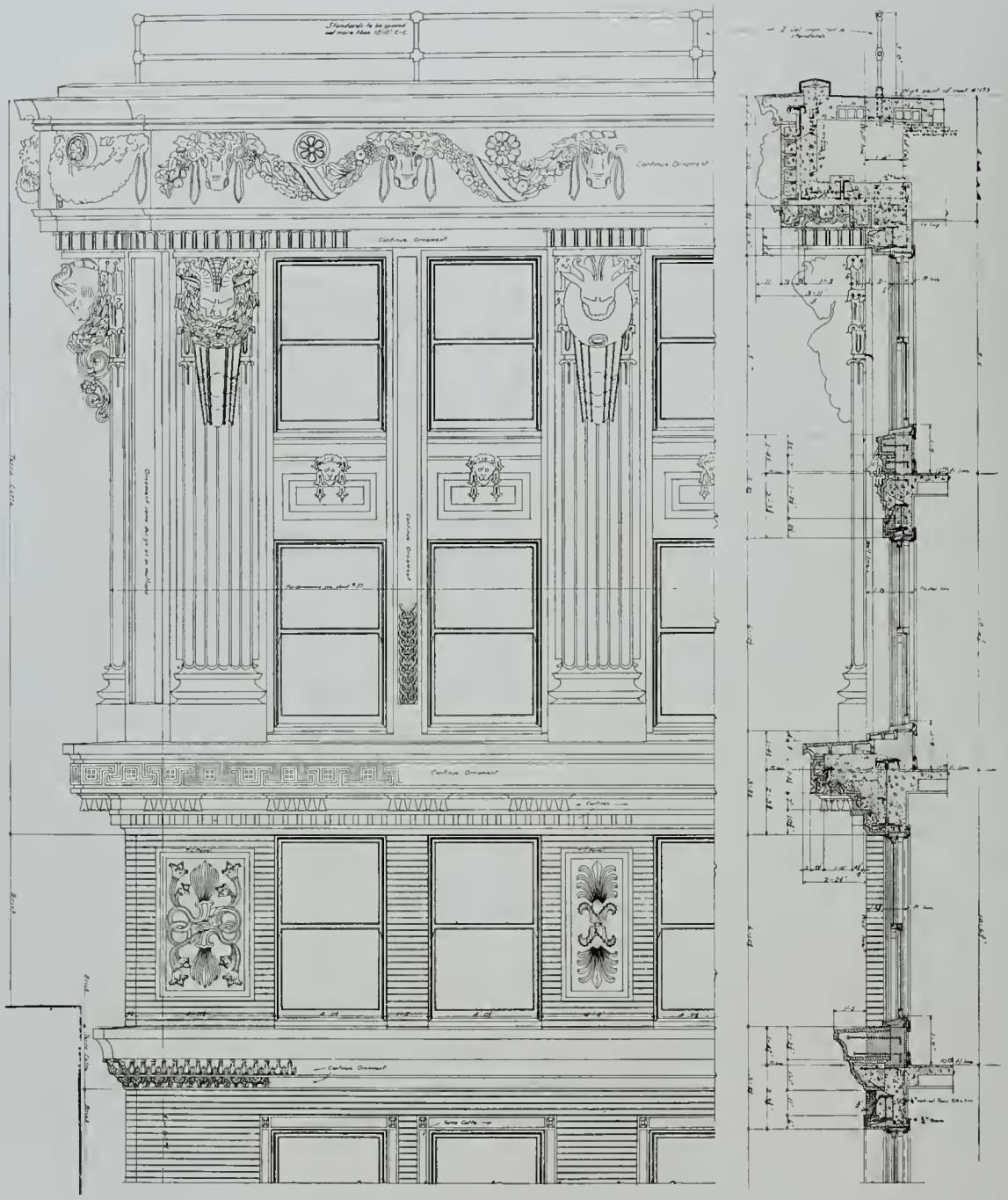
JOHN PARKINSON AND EDWIN BERGSTROM, ARCHITECTS

GENERAL VIEW INTERIOR BANKING ROOM AND SAFE DEPOSIT VAULT DOOR
CITIZENS NATIONAL BANK BUILDING, LOS ANGELES
JOHN PARKINSON AND EDWIN BERGSTROM, ARCHITECTS

OFFICERS' PLATFORM AND WRITING DESK

CITIZENS NATIONAL BANK BUILDING, LOS ANGELES

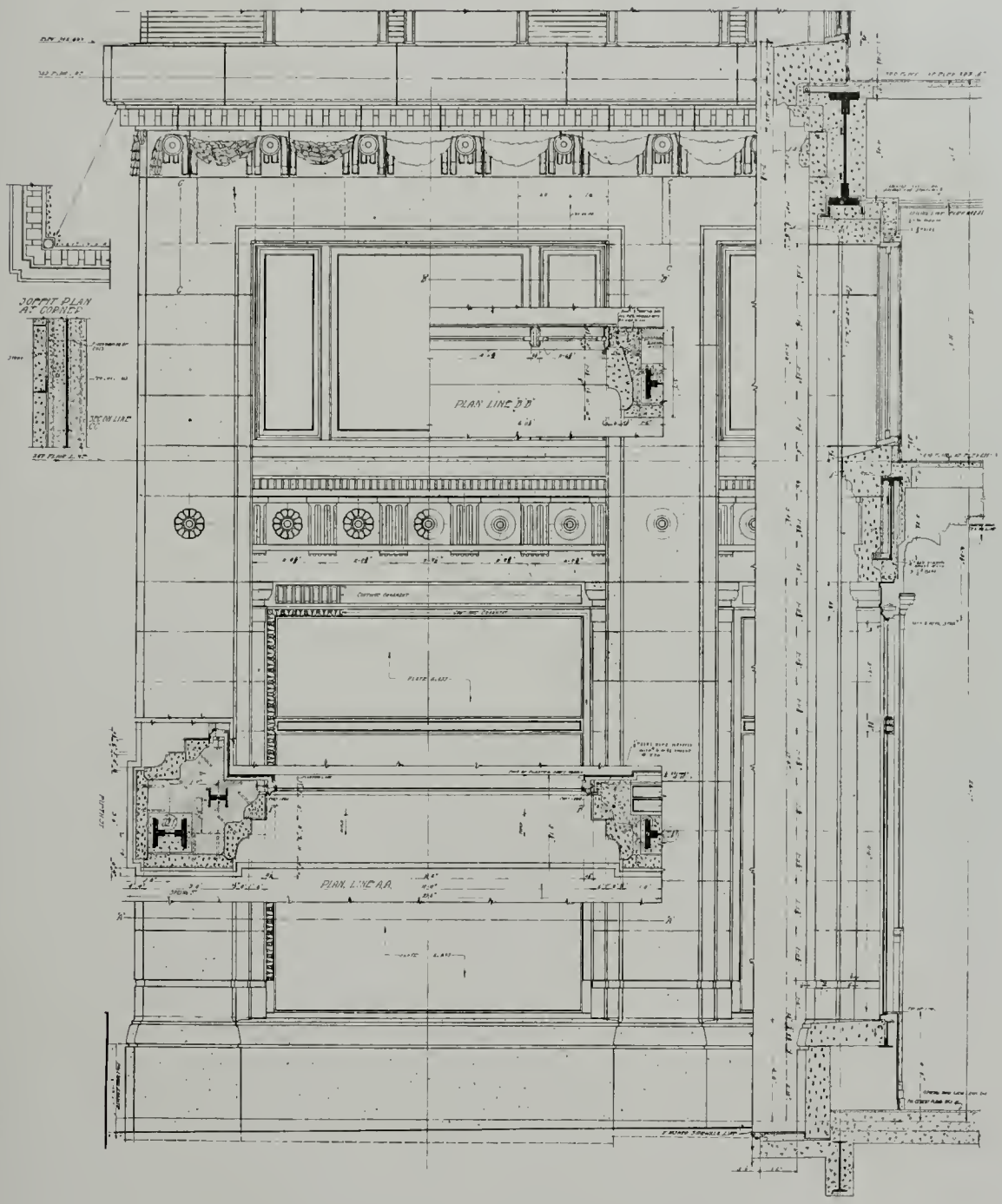
JOHN PARKINSON AND EDWIN BERGSTROM, ARCHITECTS



EXTERIOR DETAILS

CITIZENS NATIONAL BANK BUILDING, LOS ANGELES

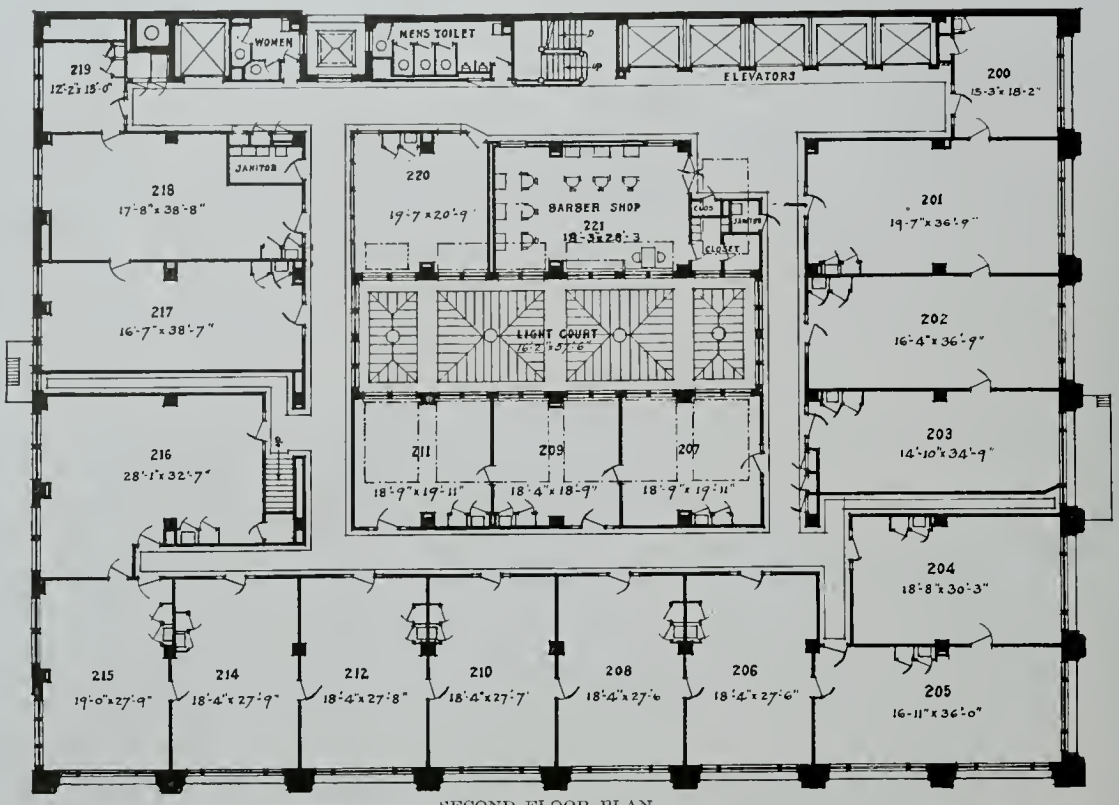
JOHN PARKINSON AND EDWIN BERGSTROM, ARCHITECTS



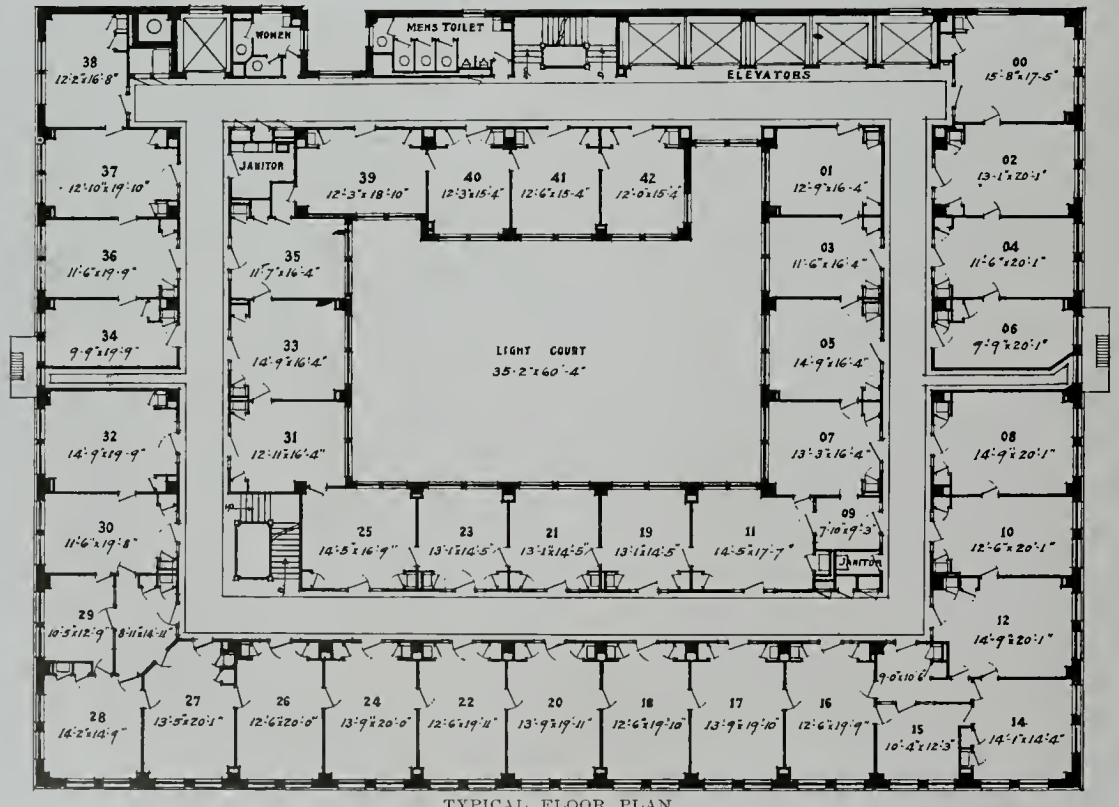
EXTERIOR DETAILS

CITIZENS NATIONAL BANK BUILDING, LOS ANGELES

JOHN PARKINSON AND EDWIN BERGSTROM, ARCHITECTS



SECOND FLOOR PLAN



TYPICAL FLOOR PLAN

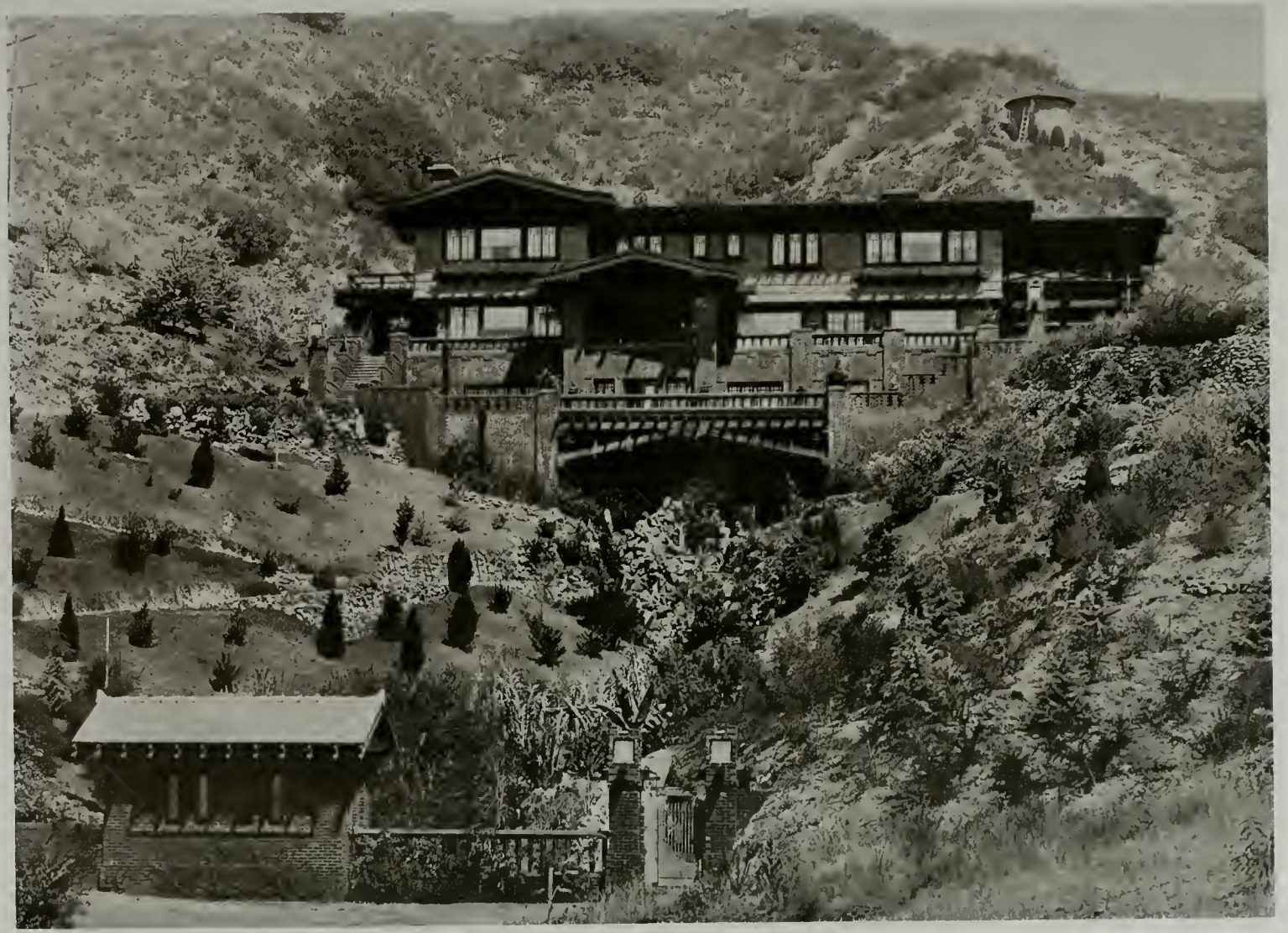
CITIZENS NATIONAL BANK BUILDING, LOS ANGELES

JOHN PARKINSON AND EDWIN BERGSTROM, ARCHITECTS

SOUTHERN PACIFIC ARCADE DEPOT, LOS ANGELES

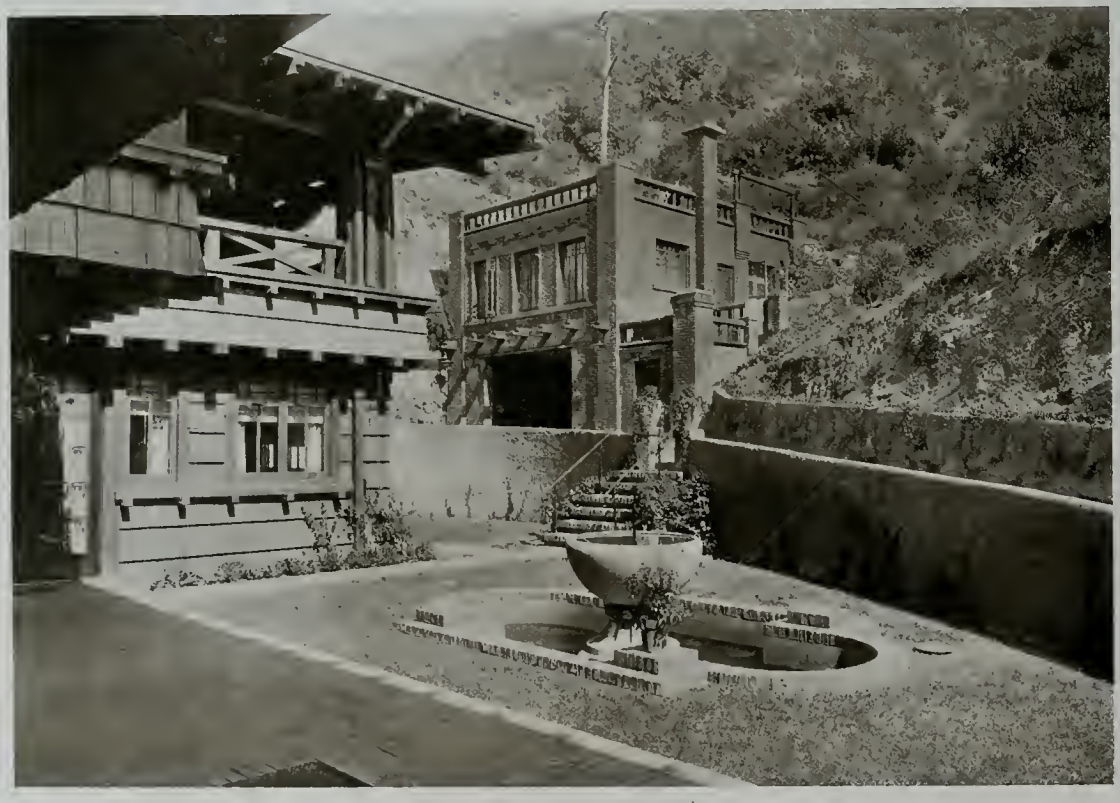
JOHN PARKINSON AND EDWIN BERGSTROM, ARCHITECTS

MAIN CONCOURSE
SOUTHERN PACIFIC ARCADE DEPOT, LOS ANGELES
JOHN PARKINSON AND EDWIN BERGSTROM, ARCHITECTS



F. E. ENGSTRUM RESIDENCE, ARTEMISIA, CANYON ROAD, HOLLYWOOD
F. A. BROWN, ARCHITECT

VIEW FROM DRIVEWAY



PATIO AND GARAGE

F. E. ENGSTRUM RESIDENCE, ARTEMISIA, CANYON ROAD, HOLLYWOOD

F. A. BROWN, ARCHITECT

DINING ROOM

MAIN STAIRCASE AND LANDING
F. E. ENGSTRUM RESIDENCE, ARTEMISIA, CANYON ROAD, HOLLYWOOD
F. A. BROWN, ARCHITECT

LIVING ROOM SHOWING VIEW OF MANTLE

LIVING ROOM SHOWING SCREEN TO PIPE ORGAN
F. E. ENGSTRUM RESIDENCE, ARTEMISIA, CANYON ROAD, HOLLYWOOD
F. A. BROWN, ARCHITECT

Electric Traction Elevators.

So consistently, during the past ten or fifteen years, has the electric elevator proven its superiority over the elevators operated by other motive power, that it may now be stated without fear of contradiction that the electric elevator has become the standard type for modern building use.

Without considering in detail the technical features of the hydraulic elevator in comparison with the geared and gearless types of electric elevators, the principal reasons for the change to these latter types may be summarized as follows:

1. Higher initial cost of hydraulic installation. 2. Larger amount of total space in building occupied by machinery. 3. Lower car milage and in consequence more elevators required for same service. 4. Higher Power Consumption.

The first electric elevators developed about twenty-five years ago, were confined entirely to the drum type of machine, that is, a machine with a grooved drum about which the hoisting cables are wound and which is driven through worm gearing by an electric motor. This type of machine, however, was found wholly inadequate for the steel skeleton skyscrapers of great height not only because of the very large drum sizes necessary to accommodate the cables of these high rise elevators, but also because of the practical speed limitations of these types. Accordingly, the traction principle of construction was adopted and developed resulting in the geared and gearless traction types of electric elevators.

EQUITABLE BUILDING
E. R. GRAHAM, ARCHITECT

The electric traction elevator derives its name from the fact that motion is obtained by means of the traction existing between the driving sheave and the hoisting cables. In order to produce the necessary tension for this result, the hoisting cables, from one end of which is suspended the car and from the other end the counterweight, pass partially around the traction driving sheave in lieu of a drum, continuing around an idler leading sheave, thence again around the driving sheave, thereby forming a complete loop around these two sheaves. This method of roping is plainly shown in Figure 1.

The principle of the traction drive is obviously very old and has been used on hand power dumbwaiters for a number of years but its commercially successful application to an elevator machine, consisting of a slow speed electric motor directly connected to the driving sheave, was first accomplished by the Otis Elevator Company about ten years ago.

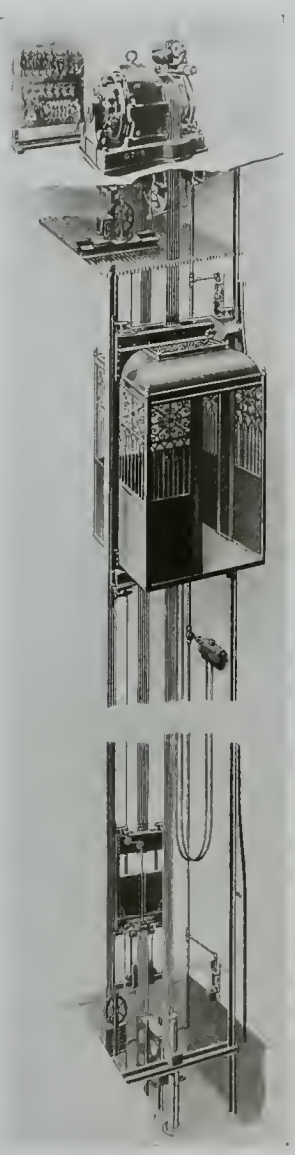
At first glance it would appear as if the traction drive would be rather uncertain when considering that the ropes are not actually hitched to the driving member, that they simply go around the driving sheave of the motor and depend solely upon friction or adhesion between the ropes and the driving sheave. This, however, as has been amply proven by exhaustive tests, is not the case; on the contrary, it is safer than any other method of drive.

The traction drive has a number of inherent safety features. Traction elevators are so arranged that in case of overrun at terminals, either the car or counterweight bottoms on a buffer, thereby reducing the traction sufficiently to prevent further motion of the car and counterweight, even if the motor keeps on running. The car buffer is usually an oil buf-

WOOLWORTH BUILDING,
CASS GILBERT, ARCHITECT

fer of a spring return type and is mounted in the bottom of the hatchway. The counterweight buffer, which has gravity return, is attached to the counterweight and in addition to performing its function as a buffer, acts as counterbalance.

The counterweight equals in total weight the weight of the car plus, usually, about 40 per cent of the maximum load. If we consider an elevator of 2500 lbs. lifting capacity, 40 per cent of this equals 1000 lbs. (the overbalance) and this represents about six or seven persons. Thus, with six or seven persons in the car, giving balanced condition, it is apparent that there is no net load to be lifted and the only power required is for acceleration and for overcoming friction and electrical losses.



COMPLETE INSTALLATION OF A 1:1 GEARLESS TRACTION ELEVATOR

It is obvious that with a high rise elevator the variation in the net load on the elevator machine due to the shifting of the weight of the hoisting ropes from one side to the other of the driving sheaves as the car moves up and down, would be excessive if this were not compensated for. This compensation is usually obtained by means of chains or ropes attached to the car and counterweight, and running down the hatch in a loop. As shown in Figure 1, the compensating ropes run down from the bottom of the car to the tension sheave in the pit and up to the counterweight. The weight per foot of these compensating ropes is such that they together with the electric cables (that lead to the car) will compensate the weight of the hoisting ropes regardless of the position of the car.

The electric motor used with the gearless machine is of slow speed type, usually provided with shunt field only. The armature is series wound with conductors of rectangular cross section in order to get the maximum amount of copper in the armature. With a 36 inch driving sheave, a car speed of 600 ft. per min. corresponds to 63.6 r. p. m. of the motor.

Up to a comparatively late date, it seems to have been the general impression that a motor of moderate duty, having a speed so exceedingly low as that required for this gearless type of elevator, would also have a low efficiency; but this is not the case. On the contrary, it has been thoroughly demonstrated that a motor with this low speed can be designed to have just as high efficiency as any high speed motor of equal output. One peculiar feature about the efficiency of this motor is that it is unusually high at light loads. This is of particular advantage in connection with elevators where the average lead is usually less than one-half its rating.

The Gearless Traction elevator may be used for any rise whatsoever, since this design does not have to consider a drum upon which the hoisting cables are wound. The direct drive and consequent elimination of all intermediate gearing between the motor and driving member results in a machine of very high efficiency and prevents absolutely any possibility of vibration or noise. With the slow speed motor employed, the momentum is much less than with a smaller high speed motor, permitting of greater ease in starting and stopping and resulting in a smooth and practically faultless movement of the car. Moreover, the compact and simple arrangements of parts effects the greatest simplicity of installation and economy of space. The elevator machine is almost universally placed over the hatchway.

COMPLETE INSTALLATION OF A 2:1 GEARLESS TRACTION ELEVATOR

The controller used with these elevators embodies the application of electro-magnetic switches. It is actuated by a master switch in the car and gives unexcelled starting, accelerating, retarding and stopping effects.

The 1:1 gearless traction elevator just described, and illustrated in Figure 1, is designed for car speeds of from 550 to700 ft. per minute. Practically all very high buildings in which high-speed elevators are required are now being equipped with this type of elevator.

For buildings of more moderate height in which elevators of from 250 to 450 ft. per min. are desired, the 2:1 gearless traction elevator is widely used. This type re-

tains the safety features and general characteristics of the 1:1 gearless machine. The method of roping employed with this construction is shown in Figure 2. In this cut, the additional sheaves on car and counterweight can be observed.

Geared Traction Elevators

The modern adaptation, in the Otis Gearless Traction Elevator, of the traction drive for high-speed elevator service showed so conclusively the merits of the traction principle that the question naturally arose as to the feasibility of employing this method of drive in the slower speed machines as well. The result was the introduction of what is known as the Geared Traction Elevator, which embodies many of the good points of the Gearless Machine.

The Geared Traction machine is similar in appearance to the standard drum machine, except that a multi-grooved driving sheave is mounted in place of the drum, and a non-vibrating idler leading sheave takes the place of the vibrating sheave necessary on the drum type. The car and the counterbalance weight hang directly from the driving sheave—one from each end of the cables—in precisely the same manner as with the Gearless Traction Elevator, the necessary amount of traction being obtained by the extra turn of the cables around the idler sheave.

Geared traction machines are built in two classes, single screw and double screw.

The gearing of the single screw machines consists of a worm which meshes with a single gear, ball thrust bearings being utilized to take up end thrust of the shaft. The worm, partly submerged in oil, the gear and the thrust bearings are all enclosed in an oil-tight iron case and are well lubricated in every part.

The gearing of the double screw machine consists of a right and left hand worm accurately cut from a solid forging. This worm, coupled directly to the electric motor, meshes with two bronze gear wheels, which in turn mesh with each other. The complete gear is fully protected in an oil-tight housing.

When three bearings are provided to support the driving sheave, worm wheel and shaft, the shaft passes directly through the driving sheave and the worm wheel center, and is securely keyed to both, providing a strong and satisfactory drive.

When two bearings are used for the support of the driving sheave, worm wheel and shaft, the method of driving through the use of keys in the shaft is eliminated, the power being transmitted direct from the gear center to the driving sheave.

The machine is equipped with a mechanically applied and electrically released double shoe brake. The shoes are applied against a pulley of ample diameter and width to dissipate any heat generated, this pulley serving as a coupling between the motor shaft and the worm shaft.

The brake shoes, normally, are bearing against the pulley with a pressure corresponding to the compression of the two helical springs. When current is admitted to the solenoid brake magnet, and then only, the action of the springs for the time is overcome, so that the shoes are released. It will be seen, therefore, that the brake will apply with full force should a failure of current occur, resulting in an immediate stop of the elevator.

The motor for direct current is compound wound and runs usually at about eight hundred revolutions per minute at full car speed and load. The series field is used only at starting to obtain a highly saturated field in the shortest possible time, and is then short-circuited, allowing the motor to run as a plain shunt wound type.

Rope guards are provided to prevent the cables from leaving their grooves in the event of either car or counterweight bottoming. The same effect is obtained on these machines as on the Gearless Traction Elevators when the cars or counterweights strike their buffers in the pit; namely, that the tractive effort is so much reduced as to make it impossible for the sheave to drive the cables. This is a most desirable characteristic inherent in all traction machines for the reason that rope strains can never increase beyond a certan limit, well within the factor of safety of the cables and fastenings. This means that the danger of the car or weight dropping, as a result of being pulled into the overhead work and thus breaking cables or fastening, is eliminated.

These machines can be arranged for car speeds up to 400 feet per minute with 2,500 pounds, or for decreased speeds with correspondingly increased loads.

To meet the demands in districts where Alternating Current is in use, the same apparatus described is furnished exeept that the direct current motor and controller give place to an alternating current motor and controller. The Alternating Current machines are also made in two classes, single and double screw. The brake is slightly different in appearance but performs the same functions as does the direct current brake.

The widening use of Alternating Current in congested sections has prompted a particularly important development in the design of an Alternating Current Motor and Controller giving variable speeds. This achievement not only adds to the smooth travel of the car and to its starting and stopping qualities but throws open a broad field for the use of a comparatively high speed geared traction machine in Alternating Current districts.

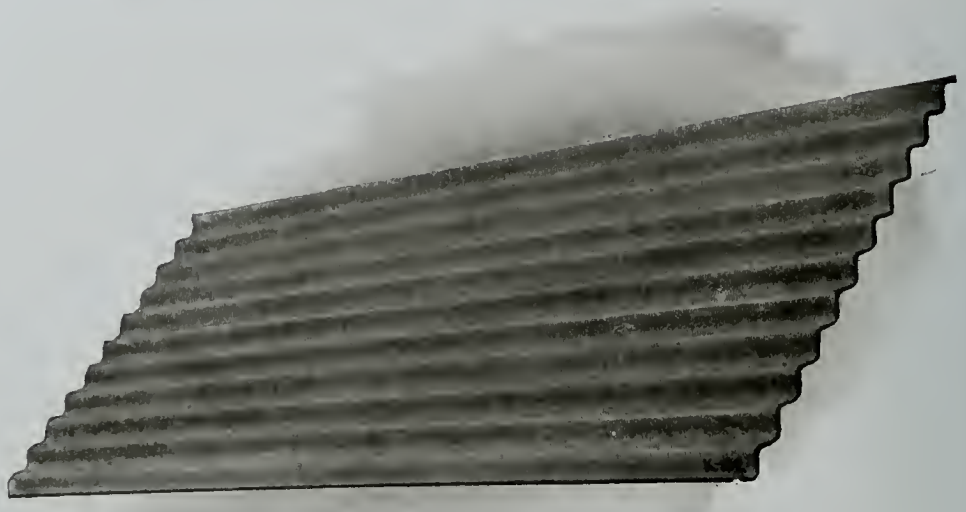
Safety devices similar to those used with the Otis Gearless Traction Elevators are furnished with the Geared Traction Elevators.

Machines of the geared type are most suitable when lower speeds are involved or when the service conditions are not so severe. Under these conditions the power consumed will be comparatively small on account of the lesser mileage, and hence the more expensive gearless machine with its reduced power consumption may not be necessary.

A Corrugated Sheet Asbestos Concrete for Roofing and Siding.

By GEORGE H. GIBSON

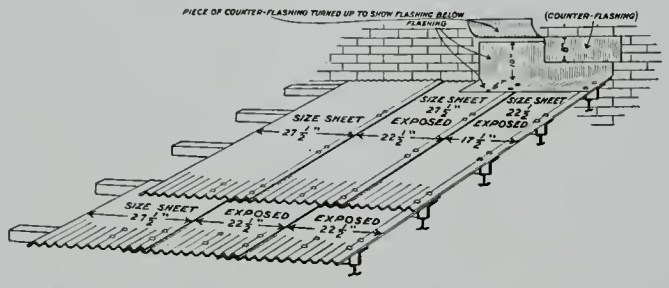
The weather and fire resisting qualities of Portland cement concrete recommend it as a covering for buildings, but because of its low tensile strength it cannot be used alone, except in massive construction. Layers, sheets or plates of concrete must be reinforced. Unfortunately, the materials ordinarily used for reinforcing, viz, steel and iron, are in a short time destroyed by water and air which penetrate the thin and more or less porous layer of cement and such reinforcement is therefore not practicable.



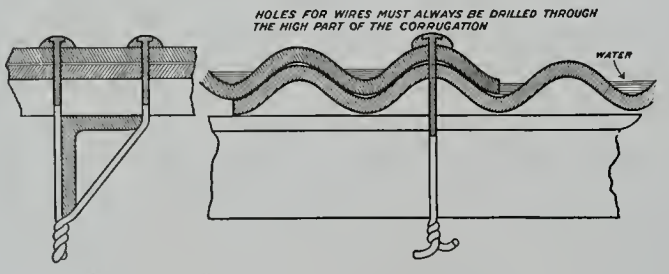
Individual Sheet of Ambler Corrugated Asbestos Roofing 27½ Inches Wide, 4, 5, 6, 7, 8, 9 and 10 Feet Long

Efforts have therefore been made to employ as a reinforcing material some substance which would lend the necessary tensile strength and toughness to the cement but which would be unaffected by atmospheric influences. Such a material has been found in asbestos, or mineral flax, which is a fibrous hydrated silicate of magnesia and is found in considerable quantities as veins; up to several inches in thickness, in the serpentine rocks in the Province of Quebec and in other mountainous districts. The fibres of certain grades of asbestos are exceedingly fine, tough and flexible, and have a tensile strength of 10 to 20 tons per square inch.

The incorporation of the asbestos fibres with the cement in such manner as to form a dense, tough concrete, demands special treatment. It is not fesible to mix the materials dry and add water afterwards, as proper bonding is prevented by the numerous films of air which surround the asbestos aggregate, and only a small of the total cement used becomes properly hydrated. The pores caused by the presence of air during the hydrating process take up water by capillary action after the material has hardened, and due to the numerous voids and fissures the resulting concrete is weak. When water is added to a mixture of cement and aggregate, the first effect of surface tension is to draw the aggregates together in groups, which can be broken up only by persistent mixing. If not broken up, such groups become covered by a colloidal solution of the more soluble aluminates of the cement which bind the particles together so effectively that further mixing will not break them up, thus preventing hydration of the cement in the interiors of these small masses.



Method of Overlapping and Fastening Sheets of Amber Corrugated Asbestos Roofing



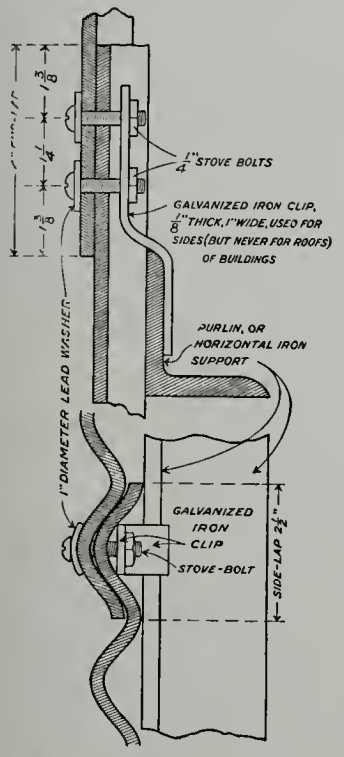
Method of Using Aluminum Wire Fasteners for Attaching Corrugated Asbestos Roofing to Purlins

The problem of successfully making an asbestos cement concrete wherein all the cement particles were thor-

oughly hydrated and united with the asbestos was solved by Ludwig Hatschek, an Austrian, whose patents are now worked extensively in all civilized countries, the Hatschek plant in Austria alone turning out yearly 100,000,000 square feet of asbestos concrete roofing material. The Hatschek process may be described briefly as follows: Hydraulic cement, of a high and uniform grade, is first thoroughly mixed with water and asbestos fibre of the chrysotile variety, in a beating engine similar to that employed in the manufacture of paper pulp. The prolonged vigorous mixing and agitation to which the material is here subjected results in the formation of uniform pulp, having the properties of a colloidal solution, one of which is that the small solid particles will remain in suspension indefinitely. The material then passes to the vat of a modified mill-board or paper machine, wherein it is kept in a state of agitation until picked up in thin coatings by a fine wire screen on a revolving cylinder, from which it is passed by an endless felt belt to a second rotating cylinder upon which it accumulates in layers until the desired thickness has been attained. The material is then cut across and removed in the form of sheets which are piled one upon another and placed between metallic plates. The latter are then subjected to heavy pressure to compact the material, drive out excess water and eliminate all voids and fissures. Due to the numerous layers the asbestos fibres cross each other in all directions, giving a texture of great homogeniety and toughness.

Ambler Corrugated Asbestos Roofing and Siding Used for Intsrcepting Spray from Atmospheric Condenser Installed on Roof of Brewery

After proper seasoning to allow for the "setting" of the cement, the sheet thus formed combines considerable strength and toughness with lightness, and besides being incombustible, is also an excellent heat insulator. Shingles prepared in this manner are made in different colors, as the natural concrete grey, slate and Indian red, and have come into wide use for covering residences and other buildings. As their weight as applied is little more than that of ordinary wood shingles, they can be used in many places where slate and ordinary tile would be inadmissable. Larger sheets are made in various thicknesses from ⅛ to ⅜ inch, and are used not only for exterior and interior building purposes, particularly where fireproofing is desired but also in the manufacture of many articles where incombustibility and heat and electrical insulation are required, as for instance, in the manufacture of gas and electrical circuit breakers, refrigerators, soda fountains, stoves, switchboards, letter files, safes, etc.


1/4" STOVE BOLTS
GALVANIZED IRON CLIP, 1/8" THICK, 1" WIDE, USED FOR SIDES (BUT NEVER FOR ROOFS) OF BUILDINGS
PURLIN, OR HORIZONTAL IRON SUPPORT
1" DIAMETER LEAD WASHER
GALVANIZED IRON CLIP
STOVE-BOLT
SIDE-LAP 2½"

Method of Using Galvanized Iron Clips for Fastening Corrugated Asbestos Siding to Horizontal supports

Ambler Corrugated Asbestos Used as Siding with Ambler Flat Asbestos Building Lumber for Framing, and Asbestos Ridge Roll on Corners. Neighboring Building Covered with Century Asbestos Shingles

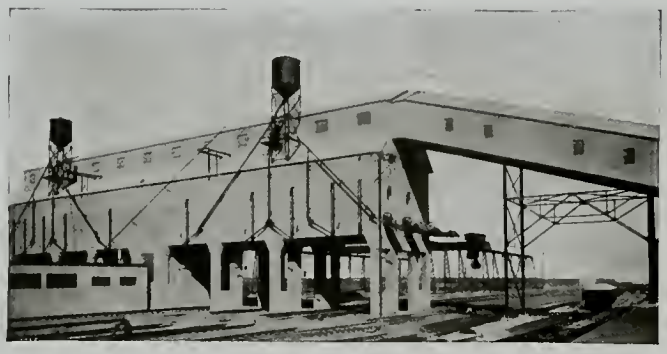
Flat Asbestos Building Lumber Used in Half Timber Effect on Residences Roofing of Asbestos Shingles

For covering large surfaces, asbestos concrete sheets made up in corrugated form offer greater strength and the corrugations lend themselves to the ready making of joints where the material is applied as roofing or siding. The problem of manufacturing corrugated sheets was taken up some ten or twelve years ago by interests connected with the Keasbey & Mattison Co., of Ambler, Pennsylvania, probably the largest miners of asbestos and manufacturers of asbestos products in the world. Their first endeavor was to take the flat sheets of asbestos building lumber, manufactured as previously described, and to bend them while soft into the corrugated form, one corrugation at a time. To give the material greater tensile strength, iron wire mesh or screen was imbedded between the layers of asbestos concrete. This was partially successful, but it was found that in some cases, particularly where the material was exposed to corrosive fumes or to salt air, sufficient moisture would enter through minute fissures in the convex side of the corrugations to cause the rusting and ultimate disintegration of the reinforcing material. The use of metallic reinforcement was therefore discarded, and the process of manufacture so modified that the material could be compressed while in the corrugated condition, a pressure of about 100 tons per square foot being employed.

The result has been to produce a dense and thoroughly compacted structure, which will not only withstand rough treatment, but is unaffected by weather influences. Corrugated asbestos sheets for roofing and siding purposes are made of a uniform width of 27½ inches, comprising eleven complete corrugations, and in lengths of 4, 5, 6, 7, 8, 9, and 10 feet. The corrugations are 2½ inches wide and 1 inch deep from top to bottom of corrugation. The material varies in thickness from 3/16 to 5/16 inches and weighs from 2.8 to 3 lbs. per square foot.

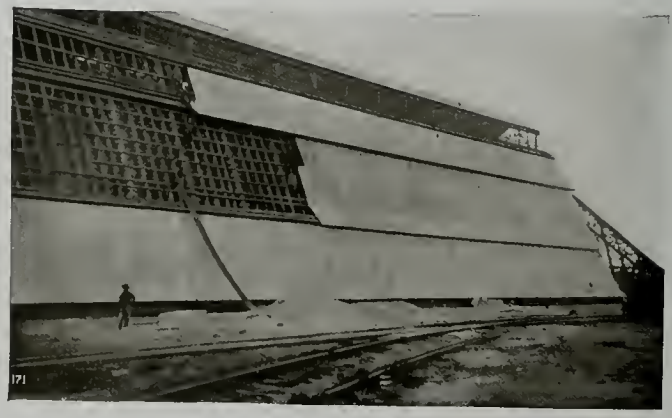
The method of applying and supporting the material for roofing and siding purposes is shown by the accompanying drawings. Roofing is lapped two corrugations sidewise and six inches endwise, the inclined joints in succeeding courses being staggered from those of the preceding courses by the amount by the side overlap. Supporting purlins are so spaced that the greatest distance between purlins shall not be more than 36 inches for roofing or 40 inches for siding.

The best device for attaching roofing to steel and iron frame work has been found to be aluminum tie wires. Two holes are drilled through the asbestos, one just above and one just below the purlin, care being taken to locate the holes in the tops of the corrugations and to make them no larger than necessary for drawing through the wire fasteners. The outer end of each tie wire is provided with a head similar to that of a wire nail and holds a soft lead washer and before the wires are drawn up against the roofing, the inner surface of the washer and the head of the wire are daubed with plastic asbestos slaters' cement. The inner ends of the two wires are then twisted together around the purlin as shown. In applying the material to wooden purlins, iron wire nails with lead washers take the place of the aluminum tie wires just described. The fastening for siding is somewhat different, consisting of a galvanized iron clip, bent so that the inner end rests over the purlin or other horizontal iron support. The



Ambler Corrugated Asbestos Roofing and Siding as Applied to Coal Pockets of the Central Railroad of N. J., at Communipaw

Continued on Page 188



Corrugated Asbestos Roofing and Siding Being Applied to Phosphate Rock Storage Bin of the American Agricultural Chemical Co., South Boca Grande, Fla.

Current Notes and Comment

It begins to look as though the Builders of San Francisco were verily going to turn the town over to the visiting Builders during American Builders' Week, October 18th to 23rd. We learn that they have reserved the largest ballroom at the famous Palace Hotel for a down-town social headquarters. The ballroom at the Inside Inn will be the social headquarters inside the Exposition grounds. The magnificent new municipal auditorium at the Civic Center, capable of accommodating easily over 5000 couples on the floor at the same time, has been engaged for the grand opening Builders' Ball. California's beautiful State Building inside the Exposition Grounds has been secured for a reception to the ladies while the men folks are absorbing wisdom in convention and in other ways. On Saturday evening, October 23rd, the week's business and ceremonies will terminate in a grand banquet at the Palace Hotel at which it is expected covers will be laid for 3000 Builders, and which will undoubtedly be the greatest gathering of its kind in the history of the world. Responses from all branches of the building business from all over the country are pouring in by mail, and those of our readers who intend participating in the festivities of Builders' Week are urged to at once secure their transportation, or they may, owing to the popularity of this unique event, suffer disappointment later. We are asked to state that the secretaries of all organizations identified with the building industry should, as early as possible, confer with their members as to their attendance, and send their reports to E. T. Thurston, Secretary of the General Committee, American Builders' Week, 57 Post Street, San Francisco.

It has been suggested that organizations of employers allied to the building business who contemplate visiting the Exposition in a body, should, if in any way possible, time their visit so as to bring it within the period designated by the National Association of Builders' Exchanges as American Builders' Week, October 18-23.

* * *

The first two stories of the Citizens National Bank building, illustrated in this issue, is of Raymond granite and the balance of the street fronts, of enameled brick and terra cotta, to match the granite. The entire building in plan and design is an expression of a practical modern office building, a substantial structure, simple in plan, with direct access to all offices, which are well lighted and of convenient size for office purposes. In its equipment the building is strictly up to date, with elevator service, the latest ideas in signal device, mail service, efficient means for handling of the building in the matter of janitor service, etc. The ground floor and basement is occupied by the Citizens National Bank. This department has an up to date ventilating installation, and means provided for controlling the temperature, the entire banking department, its room and equipment throughout embodies the latest ideas in banking room arrangement and equipment.

The Citizens National Bank Building was designed by and constructed under the supervision of John Parkinson & Edwin Bergstrom, Architects. While this building was being completed the partnership agreement, which had existed for ten years between the members of this firm, terminated, and each has opened a separate office for the practice of architecture, John Parkinson in the Security Building and Edwin Bergstrom in the Citizens National Bank Building, in Los Angeles, Cal.

* * *

"We desire to call your attention to what is possibly the most strikingly beautiful example of enameled brick we have ever produced," says a representative of the Los Angeles Pressed Brick Co. "It is now being used for exterior facing of the Citizens National Bank Building, 5th and Spring Streets, Los Angeles.

"This brick, of a creamy white enriched by spots of bluish green, is the first of the kind ever seen on the Pacific Coast. We feel confident that the "Citizens" brick will appeal to you. The cost is no more than for other shades of our enameled brick. Samples will gladly be submitted upon request."

* * *

The name of the Los Angeles Pressed Brick Company of Richmond, California, has been changed to the Richmond Pressed Brick Company. It was believed by the directors that the close association of the plant with the welfare and industry of the city, called for a more appropriate name. The Richmond plant has enjoyed a big success during recent years. It has been built up to its present capacity of about fifteen million brick and tile annually. Increased spur trackage has greatly facilitated deliveries. Superintendent John G. Gerlach, has been the recipient of congratulations for his splendid success in the management and enlargement of the plant.

* * *

The Raymond Stone Company, Los Angeles, furnished and erected the granite work for the Citizens National Bank Building of that city, illustrated in this issue. Raymond granite was used in effective manner. This company reports satisfactory business in Southern California.

* * *

The following architects have been granted certificates to practice architecture in California: Alben Froberg, 2320 A Bancroft Way, Berkeley; Harry Michelson, 1106 Mutual Savings Bank Building, San Francisco; George Wagner, 156 Devisadero Street, San Francisco.

Pacific Coast Chapters, A. I. A.

"The Architect" is the official organ of the San Francisco Chapter of the American Institute of Architects.

San Francisco Chapter, 1881—President, William B. Faville, Balboa Building, San Francisco, Cal. Secretary, Sylvain Schnaittacher, 233 Post Street, San Francisco, Cal. Chairman of Committee on Public Information, William Mooser, Nevada Bank Building. Chairman of Committee on Competition, William B. Faville, Balboa Building, San Francisco. Date of meetings, third Thursday of every month; annual, October.

Southern California Chapter, 1894—President, A. C. Martin, 430 Higgins Building, Los Angeles, Cal. Secretary, Fernand Parmentier, Byrne Building, Los Angeles, Cal. Chairman of Committee on Information, W. C. Pennell, Wright & Callender Building, Los Angeles. Date of meetings, second Tuesday; except July and August, at Los Angeles.

Oregon Chapter, 1911—President, A. E. Doyle, Worcester Building, Portland, Ore. Secretary, William G. Holford, Chamber of Commerce Building, Portland, Ore. Chairman of Committee on Public Information, William G. Holford. Date of meetings third Thursday of every month at Portland; annual, October.

Washington State Chapter, 1894—President, James H. Schack, Lippy Building, Seattle, Wash. Secretary, Arthur L. Loveless, 513 Coleman Building, Seattle, Wash. Chairman of Committee on Public Information, J. S. Cote, 520 Haight Building, Seattle. Date of meetings, first Wednesday, except July, August and September at Seattle, except one in spring at Tacoma; annual, November.

Colorado Chapter, 1892—President, W. E. Fisher, Railway Exchange Building, Denver, Colo. Secretary, Aaron M. Gove, 519 Boston Building, Denver, Colo. Chairman of Committee on Public Information, Arthur A. Fisher, 459 Railway Exchange Building, Denver, Colo. Date of meetings, first Monday in every month at Denver, Colo.; annual, September.

The American Institute of Architects, The Octagon, Washington, D. C. Officers for 1915: President, R. Clipston Sturgis, Boston, Mass.; First Vice-President, Thomas R. Kimball, Omaha, Neb.; Second Vice-President, D. Knickerbacker Boyd, Philadelphia, Pa.; Secretary, Burt L. Fenner, New York City, N. Y.; Treasurer, J. L. Mauran, St. Louis, Mo.

Board of Directors for one year—John Hall Rankin, Philadelphia; C. Grant LaFarge, 25 Madison Square, N., New York, N. Y.; H. Van Buren Magonigle, 7 West 38th Street, New York, N. Y. For two years—Octavius Morgan, 1126 Van Nuys Bldg., Los Angeles, Cal.; W. R. B. Wilcox, Central Bldg., Seattle, Wash.; Walter Cook, New York, N. Y. For three years—Charles A. Coolidge, Boston, Mass.; Charles A. Favrot, New Orleans, La.; Elmer C. Jensen, Chicago, Ill.

Minutes San Francisco Chapter, A. I. A.

The first monthly meeting after the summer vacation, of the San Francisco Chapter of the American Institute of Architects, was held at the Tait Zinkand Cafe, 168 O'Farrell Street, on Thursday evening, September 16th, 1915. The meeting was called to order at 7:45 o'clock by Mr. W. B. Faville, the President.

Minutes: The minutes of the meeting held June 17th, were read and approved.

Standing committees:

Board of Directors: The Chairman called on Mr. Mooser to make a report relative to a Special Meeting of the Board of Directors called to consider the participation of certain members of this Chapter in a competition held for a Bank Building in Stockton.

Mr. Moser stated that this was a particularly unfortunate affair, inasmuch as the invitation to submit plans did not come directly from the Bank, but through the general contractor who was to erect the building, and furthermore, the wording of the invitation was not calculated to add anything of dignity to the profession of architecture. The compensation for the successful architect did not include supervision. Ten architects or firms competed, six of whom were members of the Chapter, the successful competitor included.

The Board felt that it was up to the Chapter to decide in what manner this question should be handled and the future policy to be pursued in regard to competitions of this sort. Mr. Mooser stated that the competition for the Visalia Auditorium, while not so objectionable, was unauthorized and participated in by two Chapter Members, one of whom was successful in being awarded the commission.

Mr. Faville took occasion to call the attention of the Chapter to the new Constitution and By-Laws of the Institute, which provide for the Institute and Chapter reorganization.

Sub-Committee on Competitions: Mr. Mooser, Chairman of this Committee submitted the following written report in the matter of the Carnegie Library Association at Sacramento.

To the President and Members of the
San Francisco Chapter, A. I. A.

Gentlemen:

Some time in the month of May it became known that the City Council of Sacramento wished to procure plans for a Library Building, to cost approximately $100,000.00. Several Architects after talking to the Commission proposed submitting plans according to a rough tentative scheme—others announced that they would not submit plans unless a proper form of program was arranged. Three firms, however, did submit designs, after which the matter was reported by an Architect to the San Francisco "Sub-Committee on Competitions," with a request that they interview the authorities in Sacramento. The undersigned went to Sacramento and offered to assist the Board in their endeavor to arrange a proper competition, which offer they readily accepted. The program when submitted to the undersigned contained a statement that some seven Architects had been invited and had gone over the matter and were ready to submit drawings at short notice, so it was agreed that simple pencil drawings would answer the purpose, if all other matters as to the jury, regularity of drawings, etc., etc., were adhered to, but the drawing already submitted must be withdrawn. No prize money could be obtained. The program was then drawn substantially in accord with the code. After this, however, the Council passed an order that no mention be made of any invited Architects, but that any and all certified Architects in the State of California be invited to submt drawings in competition. No doubt had the matter been first reported to the Chapter, better terms, including prizes, could have been obtained. Again showing the members the necessity and importance of promptly notifying the Chapter of such affairs and also indicating that in a majority of such cases the authorties are glad to avail themselves of the opportunity of having a properly conducted competition.

Respectfully Submitted,

(Signed) WILLIAM MOOSER.

On concluding the reading of this report, Mr. Mooser stated that the Sacramento City Council desired the Chapter to nominate a member of the jury.

Communications: The following communications were read and ordered placed on file: From Burt L. Fenner, Secretary of the American Institute of Areritects, asking for an expression of opinion from Chapter members as to the publication of proceedings of the Annual Conventions, and one relative to the reports of Standing and Special Committees of the Institute, which will be submitted at the 1915 convention; from Walter H. Parker, relative to the Stockton Savings Bank Competition.

Unfinished Business: There was no unfinished business.

New Business: After a general discussion concerning the participation of Chapter members in unauthorized competitions, the matter of the Stockton and Visalia competitions was left in the hands of the Board of Directors for further action.

In response to the request of the Sacramento City Council, Mr. Edgar A. Mathews was, on motion duly made, seconded and carried, nominated to act as a juror in the competition for the Carnegie Library at Sacramento.

Mr. Faville reported that the subscription list circulated for the Scholarship Fund for the Architectural League had netted one hundred and twenty dollars, which amount would be sent to the Treasurer of the League, and also the subscription list for the Chapter's share toward the expense of the Law of 1872 was in circulation.

In the matter of the communication from the Institute asking for an expression of opinion from the Chapter members as to the publication of complete proceedings of the Annual Convention, the Secretary was directed to reply that this was a matter that could be safely left to the Board of Directors of the Institute to decide.

On motion duly made, seconded and carried, the Secretary was directed to express the thanks of the Chapter to the Honorable Herbert C. Jones, for his efforts on behalf of the Bill repealing the Law of 1872, and to Mr. George S. McCallum for courtesies shown the Chapter Committee during the last session of the Legislature.

In the matter of the forthcoming excursion of the Institute, the matter of entertainment and program, was, on motion duly made, seconded and carried, left to the Board of Directors for action.

Mr. George B. McDougall, State Architect, informed the Chapter that nothing had been done with regard to the State Building in San Francisco, as the bonds had not as yet been placed on sale.

On motion duly made, seconded and carried, a resolution was adopted endorsing the preservation of such portions of the grounds and buildings of the Panama-Pacific International Exposition, as are feasible and that the Chapter was prepared to co-operate to that end if called upon to do so, and further, the Secretary was directed to inform the Panama-Pacific International Exposition Company and the Daily Press, accordingly.

Membership: Mr. Morris M. Bruce having made the necessary application for Chapter membership and having been balloted upon, fifty-six ballots were received and counted and Mr. Bruce was declared unanimously elected to Chapter membership.

The Secretary announced, with deep regret, the loss of the following members through death, since the last meeting: Mr. Charles F. Man, on April 29th; Mr. Ralph Warner Hart on August 14th; and Mr. John Wright on August 23d. The Secretary was directed to express to the families of the deceased members, the deep regret and sympathy of the Chapter in their bereavement.

Nomination of officers: The next order of business was the nomination of officers for the ensuing year. The following were placed in nomination in accordance with the By-Laws and duly declared nominees to be voted on at the annual meeting in October:

President, W. B. Faville; Vice-President, Edgar A. Mathews; Secretary-Treasurer, Sylvain Schnaittacher; Trustees, Walter H. Parker and William H. Toepke.

Adjournment: There being no further business before the Chapter, the meeting adjourned at ten o'clock.

Minutes Southern California Chapter, A. I. A.

The Eighty-seventh meeting of the Southern California Chapter of the American Institute of Architects was held at the Hollenbeck Cafe, Los Angeles, on Tuesday, September 14th, 1915. The meeting was called to order at 7:30 p. m. by President A. C. Martin. The following members were present: J. E. Allison, J. J. Backus, E. P. Davis, R. C. Farrell, Homer W. Glidden, Chas. S. Greene, Henry M. Greene, J. W. Krause, John P. Krempel, A. C. Martin, H. H. Martin, S. B. Marston, Octavius Morgan, O. W. Morgan, Robert H. Orr, H. M. Patterson, A. F. Rosenheim, F. L. Stiff, August Wackerbarth, A. R. Walker, H. F. Withey.

As guests of the Chapter were present Mr. Oswald Speir, Mr. John Pelton, Architects of San Francisco; Mr. Joseph Bell De Remer and Mr. H. H. Hewitt, local Architects; C. J. Shultz and G. D. Donald, stereopticon operators; John Bowler and Wm. Dellamore of the Builder and Contractor; and W. E. Prine, of the Southwest Contractor.

The minutes of the Eighty-sixth meeting were read and approved.

For the Committee on Entertainment, Mr. Octavius Morgan, supplemented by Mr. S. Tilden Norton, informed the Chapter as to the itinerary and program outlined for the visiting members of the Institute's Board of Directors, their families and other Eastern Architects making up the party. This report was to the effect that the visitors would reach Los Angeles on Wednesday evening, October thirteenth, remaining in Los Angeles until late Friday evening of the same week. It was further understood that their program included a trip to Catalina on Thursday, October fourteenth, leaving Friday morning and a portion of the afternoon for the local Chapter's entertainment. This matter of entertainment, by resolution adopted, was referred to the Chapter's Entertainment Committee. Members of the Chapter were also urged to go to San Francisco in time to accompany the visitors on their trip south.

For the A. I. A. Sub-Committee on Competitions, Mr. Robert Orr and Mr. J. E. Allison called the attention of the President and the Committee on Competitions, to the recent alleged competition which took place for the Hospital and City Hall for the City of San Bernardino. This matter was referred to the Chapter's Committee on Competitions for investigation.

For the Committee on City Planning, no members of this Committee being present, Mr. H. F. Whitney reported that recommendations had been made by the Los Angeles City Planning Association to the Board of Freeholders that provision be made in the proposed new Charter, for a City Planning Commission. Such recommendation had been tentatively approved by the Board of Freeholders and referred to the Committee on Parks of the Board of Freeholders for consideration and final recommendation.

Communications were next read as follows: From Mr. Burt L. Fenner, Secretary of the American Institute of Architects, requesting the holding of a meeting of the Chapter on or about November 15th, for the purpose of considering the Institute Committees' reports to be submitted to the 1915 convention, and requesting that delegates from the Southern California Chapter be properly instructed in regard to the matters presented. In view of the fact that this Chapter's regular meeting comes at about the time mentioned in the communication, these matters were referred to the November Chapter meeting.

From Mr. Burt L. Fenner, Secretary of the American Institute of Architects, requesting an expression from this Chapter as to the advisability of discontinuing the publication and distribution of the complet proceedings of the annual convention and in case of such discontinuance offering as an alternative course that a publlished account or narrative of the transactions be provided in the Journal, but eliminating therefrom all irrelevant matter and all parliamentary discussions. This question by resolution adopted, was referred as a special order of business to the October meeting.

Following the reading of communications, the order of business was set aside in order to permit of the paper on Terra Cotta by Mr. Oswald Speir. Mr. Speir's highly interesting and instructive paper was illustrated with stereopticon slides, and at its conclusion it was moved by Mr. Morgan, duly seconded and carried, that a vote of thanks be rendered to Mr. Speir.

Under the head of unfinished business, the adoption of the Institute's Code of Ethics was presented for discussion. The Acting Secretary proceeded to read the document in effect by the Institute, and upon the conclusion of such reading it was moved by Mr. Rosenheim, seconded and carried, that this Chapter adopt the Institute Canons of Ethics as the Code of this Chapter.

Under the head of new business, a general discussion was entered into as to the advisability of deferring the date of next meeting inasmuch as that meeting date would possibly conflict with the arrangements to be made for the reception of the visiting Architects.

It was finally determined, however, that the regular meeting should occur as usual on the second Tuesday in October, and that such meeting should adjourn for one week, at which adjourned meeting all regular business of the Annual meeting should be transacted, and that on the evening of Wednesday, October 13th, a special meeting would probably be held, subject to announcement by the Secretary, the time and place to be determined upon by the Entertainment Committee.

The meeting adjourned at 10:50 p. m.

FERNAND PARMENTIER, Secretary,
By A. R. Walker.

Minutes Oregon Chapter, A. I. A.

Oregon Chapter, A. I. A., Minutes, Sept. 16, 1915: Minutes of the regular monthly meeting held at the Chamber of Commerce. Meeting called to order by President Doyle with Hogue, Johnson, Thompson, Whitehouse, Doyle, Naramore, Smith and Allyn, present.

In the absence of Mr. Holford Mr. Allyn was appointed Secretary pro tem. Minutes of July meeting approved without discussion. No meeting in August as a quorum was lacking.

Committee Reports: Municipal Plans and Affairs: Mr. Johnson, Chairman, reported on a proposition for excluding billboards, etc., on the Columbia River Highway.

Program and Entertainment: Mr. Naramore, Chairman, reported that a delegation of Eastern Architects would be in the city on October 4th, en route to the San Francisco exposition. Moved by Thompson, seconded by Whitehouse, and carried, that the Chapter members be assessed pro rata for the expense of entertaining the visiting architects.

Membership Committee: Mr. Doyle stated that Mr. Rich's application had been on hand for some time, but had not been acted upon on account of lack of a quorum at meeting. Secretary instructed to send out ballots to vote on this application.

Communications: Letter was read from H. A. Whitney to Mr. Whitehouse, Chairman of Competition Committee. Moved by Thompson, seconded by Johnson and carried, that President and Secretary write a reply to Mr. Whitney's letter. Moved by Hogue, seconded by Naramore and carried that Secretary notify Mr. Dieck that Mr. Whitney is no longer a member of the Chapter and consequently cannot represent the Chapter on the Building Code Revision Committee.

Letter read from Builders Exchange requesting the use by the Chapter members of the Standard Documents of the A. I. A. Moved by Johnson, seconded by Thompson and carried that the Secretary write each chapter member recommending the use of above mentioned documents.

Mr. Johnson and Mr. Hogue reported in the absence of Mr. Fouilhoux, on the recent passage of the City Ordnance reducing the area of the inner fire limits.

Nomination for officers to be elected at the Annual Meeting were made as follows: President, Doyle and Holford; Vice-President, Hogue and Johnson; Secretary, Jacobberger and Naramore; Treasurer, Fouilhoux and Johnson; Trustees, Whitehouse, Doyle, Holford and Naramore.

Meeting adjourned.

S. F. ALLYN, Secretary, pro tem.

WORK OF THE INSTITUTE

Continued from Page 157

charter provided for meetings in New York and those held outside have been technically illegal. The New York Legislature has revised the Charter to allow the meetings to be held elsewhere and the meeting was to accept this revised charter and legalize past acts. Now at last the Octagon is a reality. It is however in bad repair and house outbuildings and grounds require complete restoration. It will then be an example of an early 19th century gentleman's city house.

Mr. Brown, so long our Secretary, and so closely connected with this work, and with Mr. McKim, who had it so close to his heart, has prepared a Monograph of the building, made in the course of his work as the architect entrusted with the restoration, and the returns on this will help to restore the old building and make a fitting memorial to Mr. McKim. Men outside of the Institute should come in and share our pleasure in this historic headquarters.

Public Welfare: It would be impossible to review or even catalogue the work done by the Institute and its chapters in matters of public welfare—Building Laws, Fire Prevention, Insurance, Registration Laws, Town Planning. In every one of these fields and many more is the Institute working constantly.

The work done includes not only all these, which require constant revision, but the schedule of charges, our relations towards contractors and towards organized labor, towards the mechanics and the craftsmen. Mr. Taylor is right "we desire to be doing some good in some way," and if every man in the country fit for Institute membership will join and put his shoulder to the wheel the burden will be light.

* * *

LANDSCAPE ARCHITECTURE, AN ART WITH A HISTORY

Continued from Page 159

and space. There is a marked absence of symmetry in their designs as a whole. It appears, if at all, only in minor details. They show none of that recognition of axis or of balance about the axis, such a notable feature of Roman and Italian designs. They met their own peculiar conditions well, however, and fitness may be said to have been their controlling motive.

These were warlike times and security was looked for first, with pleasure and beauty as later considerations. The gardens and grounds of the old monasteries and feudal castles were essentially places of leisure and contemplation, and the high embattled walls lent an element of austerity to such grounds. All these conditions made simplicity, fitness and a complete utilization of every part important. Castles were built on hill tops for their better defense, and areas were therefore limited and very irregular in outline, but this irregular space was completely utilized. Everything was compact, neat and orderly. There were noticeable features of English design, as we shall see, but the conditions of mediaeval times did not lend themselves to a high development of landscape design.

With the cessation of these harsh warlike conditions and the dawn of the Renaissance, landscape design entered upon a new and glorious era, for now, especially in Italy, great protective fortress walls were useless, and we begin to find country places designed solely for enjoyment and the entertainment of guests, not as retreats for protection from warlike neighbors. Then was developed that perfect thing in landscape design the Italian villa.

The greatest artists made plans for them, and as we study their work in this regard, we see that the best principles of landscape design were instinctively used. An Italian villa included the entire creation of roofed and unroofed buildings, terraces, fountains, paths, walls, seats and planting. Everything was most carefully provided for with one well rounded purpose in view.

The site was selected in an agreeable country, giving access to good breezes and rare views; accessibility and constructive considerations were remembered. There was always the closest adjustment of topography, but this adjustment differed from that of mediaeval times. These sloping situations led naturally to the development of the terrace, and while the Renaissance designers may have modified the topography more, they did not contradict it, as was done in the earlier Roman times.

To be concluded

Pacific

"Pacific" Kwy-eta Combination

The most silent combination made

"Pacific"

Plumbing Fixtures

Guaranteed for an unlimited period of years
against defects in material and manufacture

FACTORIES: RICHMOND, CALIFORNIA

DISPLAY ROOM: 67 NEW MONTGOMERY STREET SAN FRANCISCO

A CORRUGATED SHEET ASBESTOS CONCRETE FOR ROOFING AND SIDING

Continued from page 182

clip is fastened to the corrugated material by two one-quarter inch stove bolts, the heads of which are outside and rest against soft lead washers. Siding is secured to wooden frame work by means of nails, as in the case of roofing.

For the protection of corners and ridges, rolls of the same material as the roofing and siding are used. Those for corners are half cylinders made in lengths of 16, 42 and 56 inches, and so applied that the ends overlap. The ridge rolls are provided with 6-inch wings, which overlap the corrugated roofing. To admit of applying the ridge roll to any peak or angle, it is made in two parts, the half cylindrical parts turning one within the other to give the desired angle to the two wings.

The accompanying photographs show buildings covered with the corrugated asbestos concrete roofing and siding, also the process of application. Corrugated asbestos roofing furnished by the Keasbey & Mattison Co. is being widely used for covering the buildings of steel and iron companies, gas works, elevators, chemical works, machine shops and foundries, warehouses, pier sheds, etc. Its permanent characted renders it much more economical in the long run than corrugated iron, either bare, painted, galvanized or otherwise covered.

Best Plaster for
ALL CLASSES OF
BUILDINGS

SYNAGOGUE
Oakland, Cal

G. ALBERT LANSBURGH
Architect

KEENE CEMENT GAUGED
LIME MORTAR

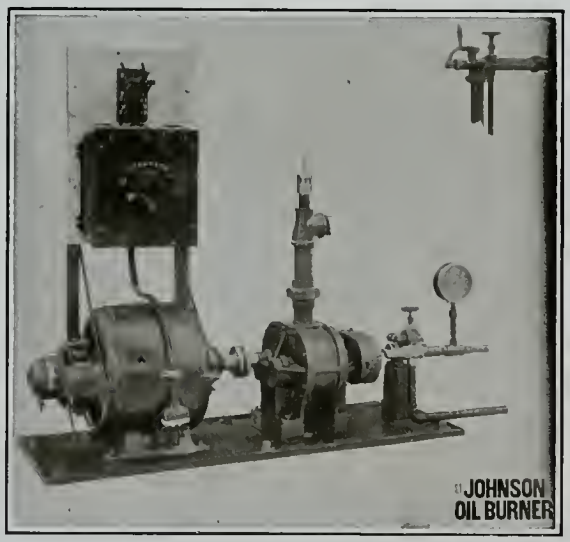
NON-CORROSIVE —— SOUND PROOF

Costs Less than Hardwall

American Keene Cement Co.
MANUFACTURERS
"STRONGEST KEENE CEMENT KNOWN"

Low Pressure Crude Oil Burning Equipment

Not how Cheap--but how Serviceable



WILL LAST A LIFETIME—RUNS SLOW

WAR DEPARTMENT
OFFICE CONSTRUCTING QUARTERMASTER,
UNITED STATES ARMY
Fort Mason, San Francisco, Cal.,
Nov. 28, 1914.

S. T. Johnson Co.,
San Francisco, Cal.—

Gentlemen: Referring to your inquiry about the Oil Burning System installed by you at Fort Baker some time ago under this office, I wish to say that this low pressure air burning system has given entire satisfaction. This central system, with its air and oil mains to each building, is very simple and there are no parts to get out of order, if once put in right A saving of about 70 per cent over price of coal has been made by this change, and the plant will soon pay for itself.

Respectfully,
O. W. Degen,
Civil Engineer & Spt. of Const.

The United States Government has 132 Johnson Burners in Daily Use

Some Oil Burner Manufacturers install outfits that operate at speeds at high as 3,400 R. P. M., and if they are worn out as soon as the makers' guarantee expires, "It's up to you." Why have high speed machinery? Johnson systems give long satisfaction.

1337 Mission St.
SAN FRANCISCO

S. T. JOHNSON CO.

AGENTS IN PRINCIPAL
PACIFIC COAST CITIES

"If you are Interested in Building Economy,"

—says a well-known Chicago contractor

"If you appreciate *real* savings in time and money don't fail to visit the

BUILDING MATERIAL EXHIBIT

Follow their slogan to the letter and 'Look Before You Build,' for it will pay you immesurably, as your own experience will tell you."

There are 150 exhibits conveniently arranged on one immense floor—every exhibit alive with interest. Alfred Struck Co., American Mailing Device Co. and Marble Mosaic Co., are but three of the 150 exhibitors from over the entire country.

Building Material Exhibit
(PERMANENT)
Entire Second Floor
Insurance Exchange Building
Jackson Blvd. at Fifth Ave.
CHICAGO

It's Free to See

LOOK BEFORE YOU BUILD

WHEN your plans call for concrete, stucco or plain cement, *weatherproof* the walls. Make them absolutely tight. Two coats of

Bay State *Brick and Cement* Coating

will do the job. This coating is a *permanent finish*—tried and proved by architects and builders in all parts of the country.

Bay State Coating comes in white and a variety of desirable tints. It wipes out the blotchy blue-gray of cement and gives most pleasing artistic effects not otherwise possible.

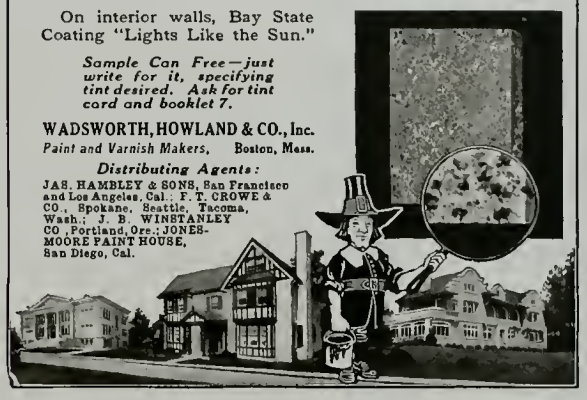
This panel shows why ordinary concrete absorbs water.

On interior walls, Bay State Coating "Lights Like the Sun."

Sample Can Free—just write for it, specifying tint desired. Ask for tint card and booklet 7.

WADSWORTH, HOWLAND & CO., Inc.
Paint and Varnish Makers, Boston, Mass.

Distributing Agents:
JAS. HAMBLEY & SONS, San Francisco and Los Angeles, Cal.; F. T. CROWE & CO., Spokane, Seattle, Tacoma, Wash.; J. B. WINSTANLEY CO., Portland, Ore.; JONES-MOORE PAINT HOUSE, San Diego, Cal.



Mt. Diablo Cement

Always Used Where Quality Counts

COWELL SANTA CRUZ LIME

Henry Cowell Lime & Cement Co.
2 Market Street, San Francisco

BRANCHES:
Oakland Sacramento San Jose Santa Cruz
Portland, Oregon Tacoma, Wash.

Two Gold Medals awarded Fess System Company on Crude Oil Burners, one for mechanically atomizing burners for low pressure Heating Boilers and Hot Air Furnaces, one for Range Burners.

See Burners in operation—5th Avenue and E, Machinery Palace

Office, Factory and Demonstrating room,
220 Natoma Street

Call or write us for prices

Fess System Co.

PORTLAND LOS ANGELES SEATTLE

R. N. Nason & Co.

PAINT MAKERS

151 Potrero Avenue——SAN FRANCISCO——54 Pine Street

MAKERS

NASON'S OPAQUE FLAT FINISH

A flat oil paint made in soft Kalsomine Tints that is washable—a practical article for walls, ceilings, etc., that is economical and durable.

AGENCY

Tamm & Nolan Co.'s High Grade Varnishes and Finishes

The goods made on the Pacific Coast for the climate of this Coast.

New Model Intermediate Thermostat

JOHNSON SERVICE CO.

Established in 1885

The only company on the Pacific Coast handling temperature regulation exclusively with our own corps of Skilled Mechanics.

JOHNSON THERMOSTATS ARE STANDARD

629 Lumberman's Bldg, Portland, Oregon
1104 White Bldg, Seattle, Wash.
600 Citizens National Bank Bldg, Los Angeles
149 Fifth Street, San Francisco

Target-and-Arrow Tin

IC TARGET AND ARROW REGISTERED TRADE MARK N. & G. TAYLOR CO. PHILADELPHIA

A Few Arguments for Tin Roofing

Light. No tronble and but little expense to repair.
Fireproof. Nothing to disfigure adjoining work.
Lightning-proof. Nothing to Clog the leadere.
Cleare quickly of water. Will outlast the building.

The "Target and Arrow" brand of roofing tin is carried in stock by leading wholesale hardware and sheet metal jobbers at principal distributing points throughout the United States.

J. A. DRUMMOND

725 Chronicle Bldg. San Francisco, Cal.

PACIFIC COAST REPRESENTATIVE

Draughtsmen's Blouses

A specially designed studio and office robe, made of well-wearing material, washable, of a serviceable buff shade, offering a complete protection of clothes from wear and tear. Sent to any address, prepaid upon receipt of price.

Style A
$1.50

Style B
$2.00

E. Falkenhainer
25 West 42nd Street
NEW YORK CITY

Special discounts in lots of one dozen or more

ELECTRICAL ILLUMINATING MECHANICAL

Charles T. Phillips

CONSULTING ENGINEER

PACIFIC BUILDING
SAN FRANCISCO

PLANS SPECIFICATIONS REPORTS

The economical production, distribution and application of light, power, heating and ventilation. Illumination efficiency. Electrolysis investigations. Estimates and tests.

SPECIFY

NEPHI PLASTER ONLY

IT MAKES THE WALL

Standard for 25 years on Pacific Coast and Intermountain West

Hardwall, Finishing, Casting, Etc.

NEPHI PLASTER & MANUFACTURING CO.

San Francisco Office, Builders Exchange
180 Jessie Street—Phone Sutter 6700

MAIN OFFICE, 711 BOSTON BUILDING
Salt Lake City, Utah.

SPECIFY

GOLD MEDAL

Over all competitors
P. P. I. E.
Awarded

CALFACO FLAT WASHABLE WALL FINISH

NEVER PEELS YELLOWS GLOSSES

COVERS LIKE A BLANKET

Used on 02,000,000 Oakland City Hall, Federal Building, Central Bank, Oakland Schools, Etc.
5 P. P. I. E. HIGHEST AWARDS

Everything Reliable in Paint

California Paint Co.

12th and Pine Streets
Telephone Oakland 3623 OAKLAND, CAL., U. S. A.

RESIDENCE, T. W. CUSHING, OAKLAND, CALIFORNIA
Milwain Bros., Architects, Oakland, California

Equipped With

PITCHER

Disappearing Doors
Adjustable Hangers

AND

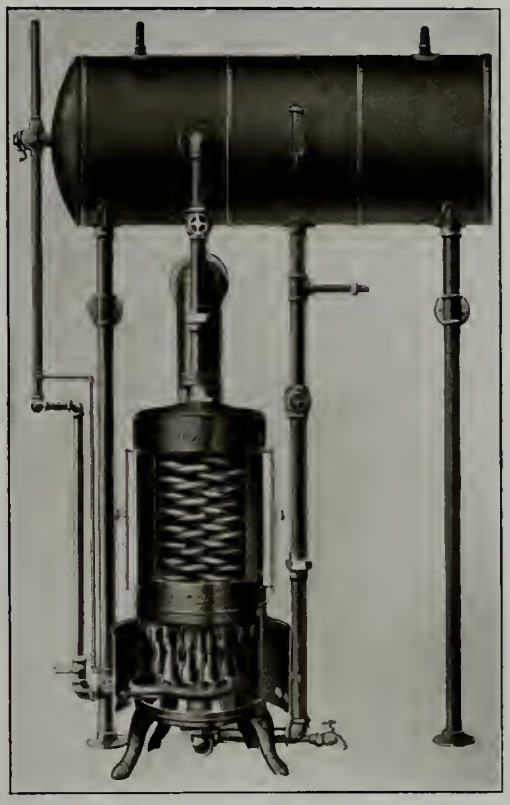
PATENTED FRAMES

Pitcher Disappearing Doors installed in 5½ inch partitions. No extra thickness of wall required. Specify Sliding Doors in place of Swinging Doors.

WRITE FOR PARTICULARS

NATIONAL MILL & LUMBER CO.

FIFTH AND BRYANT STS. **SAN FRANCISCO, CAL.**



Hoffman Automatic Hot Water Storage System with Multi Coil Gas Heater

The latest improved hot-water storage system especially designed for large Residences with from four to ten Baths, or Large Apartment Houses containing from six to twenty suites.

The Most Efficient and Economical by Test

OPERATES AUTOMATICALLY—Provides Instant hot water at all Hot Water Fixtures—Maintains uniform temperature of 150 degrees.

The Hoffman Heater Co.

LORAIN, OHIO
Pacific Coast Branch
397 Sutter Street, San Francisco
Phone Kearny 4325
Oakland Office, 533 13th Street
Phone Oakland 2481

ST. MARGARET'S ACADEMY, MINNEAPOLIS, MINN.

ROOFED "HONEYCOMB" EFFECT WITH

Ambler "Century" Asbestos Shingles

Buildings covered with AMBLER Asbestos will not catch fire from flying brands nor from the radiation of burning buildings nearby. Supplied in three colors—Newport Grey, Indian Red and Slate, it makes possible attractive designs, and it can also be painted, enameled, varnished, ingrained, etc., as desired for decorative effects.

AMBLER Asbestos is a solid, homogenous material that is not affected by light, heat or moisture. There is nothing to separate, pell or wash off, or to chip and crack, exposing other perishable material.

High grade Portland Cement becomes more tough and resistant the older it is, hence AMBLER Asbestos coverings exposed to the weather have practically unlimited life. In fact, it has been truly said that AMBLER Asbestos Roofing is permanent as the everlasting hills.

AMBLER ASBESTOS CORRUGATED SHEATHING is superior to corrugated iron for Factory and other permanent building construction, being fastened directly to the wood or metal purlins.

Sold by the

Keasbey & Mattison Co.

Manufactured by the
Asbestos Shingle, Slate & Sheathing Co.
Ambler, Penna., U. S. A.

J. A. DRUMMOND

Pacific Coast Representative
725 Chronicle Bldg., San Francisco.
Stock Carried in San Francisco.

PACIFIC COAST DEALERS

SAN FRANCISCO, CAL.
Plant Rubber & Supply Co.
Western Asbestos Magnesia Co.

SACRAMENTO, CAL.
Miller-Enwright Co.

LOS ANGELES, CAL.
California Cornice Works
Waterhouse & Price Co.
Howe Brothers

SEATTLE, TACOMA, SPOKANE, WASH.
F. T. Crowe & Co.
PORTLAND, ORE.
Gillen-Chambers Co.
FRESNO, CAL.
Kutner-Goldstein Co.

THE ARCHITECT

VOLUME X · NUMBER 5 ·
· NOVEMBER · 1915 ·

For Iron and Steel Preservation

Moisture is the most destructive agency at work on iron and steel. To prevent rust and electrolysis due to moisture, a protective coating is required which will adhere indefinitely to the surface and which will resist and repel water.

Pure Red Lead has proved by every test to be the most durable and efficient protective coating known for all structural iron and steel work.

PIONEER RED LEAD is chemically Pure Red Lead and is of the same standard of excellence as PIONEER WHITE LEAD. There is none better. By including it in specifications for structural iron and steel the maximum protection and durability is assured.

W. P. Fuller & Co.

MANUFACTURERS

SPECIALIZED PAINT AND VARNISH PRODUCTS FOR EVERY PURPOSE.

THE
FIRST NATIONAL
BANK BUILDING

BRIDGEPORT, CONN.

Was finished with
BERRY BROTHERS'
VARNISHES

Architects
TRACY & SWARTWOUT
New York City

Contracting Painters and
Designers
HOGGSON BROTHERS
New York City

For over half a century architects throughout the country have been specifying Berry Brothers' Varnishes with various ends in view—lasting service, greatest beauty, the client's approval or the certainty of satisfaction.

Berry Brothers' varnishes have been used in many of the finest buildings in the country. Hotels, Public Buildings, "Skyscrapers," the most pretentious clubs, as well as small buildings and modest homes of all sorts, have been beautified and made more attractive and lasting by the use of Berry Brothers' varnishes.

In fact, wherever hard wear, beauty and permanent satisfaction are paramount, Berry Brothers' varnishes are being specified.

Write us for interesting varnish information

BERRY BROTHERS
(INCORPORATED)
World's Largest Varnish Makers

Factories: Detroit, Mich.; Walkerville, Ont.; San Francisco, Cal.
Branches in principal cities of the world.

DETROIT SAN FRANCISCO WALKERVILLE, ONT.

REFINISHED WITH CONCRETO

L. J. NEAL
Painting Contractor
San Francisco

THE MATABELLE APARTMENTS
625 Bush Street, San Francisco

EDWARD T. FOULKES
Architect
San Francisco

Refinished with
One Coat

THE MURALO COMPANY
CEMENT
CONCRETO
COATING
NEW BRIGHTON, N.Y.

Over Another
Material

Sole Makers **THE MURALO CO.,** New York

San Francisco Office: 311 CALIFORNIA STREET
A. L. GREENE, Agent

DISTRIBUTORS

LOS ANGELES
SUNSET PAINT CO.
627 S. Main Street

SAN FRANCISCO
D. H. RHODES
546 Valencia Street

V. J. DONOVAN
Painter and Decorator
San Francisco

ST. PAUL'S EPISCOPAL CHURCH
Bay Place and Monticeto Avenue,
Oakland, Cal.

BENJ. G. McDOUGALL
Architect
San Francisco

Finished throughout with

Kyanize KY-AN-IZE INTERIOR FINISHES

Boston Varnish Company, Boston, U. S. A.

San Francisco Office and Warehouse, 311 California Street

A. L. GREENE, Agent

Seattle	Tacoma	Portland	Los Angeles
CAMPBELL HDWE. CO.	**W. J. HANSON CO.**	**W. M. SMITH CO.**	**SUNSET PAINT CO.**
Coleman Dock	1129 Broadway	550 Williams Ave.	627 South Main St.

ROBINSON BUILDING
Los Angeles

NOONAN & RICHARDS
Architects and Engineers

The 265,000 face brick used in this building are enameled in a mottled gray and were manufactured by

Pacific Sewer Pipe Company

Los Angeles, Cal.

Plant No. 4
306 AVENUE 26, LOS ANGELES

Main Office
825 EAST SEVENTH STREET

HALE BUILDING
San Francisco

REID BROS.
Architects

This Building is Painted with

GLIDDEN'S STUCOLOR

LIQUID CEMENT PAINT

Whittier Coburn Company

DISTRIBUTORS

Corner Howard and Beale Streets. San Francisco, California.

MEIER & FRANK COMPANY BUILDING
Portland, Ore.

STAIRWAY SOUTH END

DOYLE & PATTERSON
Architects

Columbia Wire & Iron Works

Installed all the

Ornamental Iron Work

In the

MEIER & FRANK CO. BUILDING
Portland

Agents for Oregon

Reliance Ball Bearing Door Hanger Co.

New York City

Elevator Door Hangers installed throughout Meier & Frank Company Building.

OFFICE AND FACTORY:

East Eighth and Market Sts., Portland, Ore.

Samples of the NEW ARCHITECTURAL TERRA COTTA, Veined through and through
Patent applied for
Manufactured at South San Francisco, San Mateo County, Cal., by
STEIGER TERRA COTTA AND POTTERY WORKS MAIN OFFICE: 727 MILLS BUILDING, SAN FRANCISCO

BROADWAY STORE
Los Angeles

JOHN PARKINSON & EDWIN BERGSTROM
Architects

Exterior faced with enamel brick, midway between white and ivory in shade, called the Broadway Glaze. We think this brick is the most handsome of any that we have made.

Los Angeles Pressed Brick Co.

402-14 Frost Bldg., Los Angeles, Cal.

United Materials Company

5 Crossly Bldg., San Francisco, Cal.

DISTRIBUTORS FOR NORTHERN CALIFORNIA

MEIER & FRANK BUILDING
Portland, Oregon

DOYLE & PATTERSON
Architects

WHITE MATT ENAMEL
ARCHITECTURAL TERRA COTTA

MANUFACTURED BY

GLADDING, McBEAN & CO.

OFFICES CROCKER BUILDING
San Francisco

TRUST & SAVINGS BUILDING
Los Angeles

FACTORY
Lincoln, California

BROADWAY DEPARTMENT STORE
Los Angeles

JOHN PARKINSON and EDWIN BERGSTROM
Architects

Architectural Terra Cotta
of CREAM MATT GLAZED quality
used for the exterior of this building was

MANUFACTURED BY

N. CLARK & SONS

OFFICE: 112-116 Natoma Street
SAN FRANCISCO

FACTORY: WEST ALAMEDA
CALIFORNIA

THE ARCHITECT

VOLUME X — SAN FRANCISCO, CALIFORNIA, NOVEMBER, 1915 — NUMBER 5

J. A. DRUMMOND, Publisher . . . . CLARENCE P. KANE, Editor

PUBLISHED IN THE INTERESTS OF THE ARCHITECTURAL PROFESSION, ON THE FIRST OF EACH MONTH, AT 725 CHRONICLE BUILDING, SAN FRANCISCO. SUBSCRIPTION IN THE UNITED STATES AND POSSESSIONS, $5.00 A YEAR; FOREIGN AND CANADIAN, $6.00 A YEAR. SINGLE COPIES, EACH 50 CENTS. ENTERED AS SECOND-CLASS MATTER AT THE POST OFFICE IN SAN FRANCISCO.

CHANGES IN, OR COPY FOR, NEW ADVERTISEMENTS MUST REACH THE OFFICE OF PUBLICATION NOT LATER THAN THE FIFTEENTH OF THE MONTH PRECEDING ISSUE. ADVERTISING RATES AND ANY OTHER INFORMATION WILL GLADLY BE GIVEN UPON APPLICATION. FORMERLY KNOWN AS THE PACIFIC COAST ARCHITECT.

THE EDITOR WILL BE PLEASED TO CONSIDER CONTRIBUTIONS, OF INTEREST TO THE PROFESSION. WHEN PAYMENT FOR SAME IS DESIRED, THIS FACT SHOULD BE STATED. TELEPHONE DOUGLAS 3424.

PHILADELPHIA OFFICE: BEESON & WILSON, FORREST BUILDING.

Editorial

To Build Strong Organization.

The most important result emanating from the recent visit in San Francisco of officials of the American Institute of Architects, is the creation of a new enthusiasm, a more unified spirit, and a desire, on the part of San Francisco Chapter members, to cooperate in promoting the welfare of their chapter. In other words, the visit has provoked a new willingness and inclination, through which western architects will put their shoulders to the wheel for the purpose of accomplishing real and definite results, leading not only to the betterment of general affairs, appertaining to the profession of architecture, but to the promulgation of a wider spirit of helpfulness toward one another.

As an evidence of the good work to follow, was the last meeting of the San Francisco Chapter, where unanimous spirit of enthusiasm and activity prevailed. Not only was the attendance of regular members much larger than usual, but a strong desire prevailed for the upbuilding of an organization that promises much good for the future. San Francisco Chapter is destined to become one of the strongest and most influential bodies of its kind in this country. With so many able and earnest workers, all pulling for the same cause, no other outcome is possible, and it is with pleasure that we look ahead to the building of a strong and helpful organization.

Needless to say, the visit of President Sturgis and his friends, provided considerable pleasure for those architects who were fortunate in meeting the visitors in joining in the entertainment arranged for the occasion. It is to be hoped that we may see more of Mr. Sturgis and his co-workers of the East, and that their next visit to the Coast will not be far off.

* * * * *

General Business Revival Is Noted.

Coming on the heels of a protracted period of business depression, it is extremely gratifying to note the stimulae that has been given to all branches of trade during the past two months.

Reports from New York show that a general revival of freight traffic, unequaled since 1907, has been felt by almost every railroad entering New York City, or the terminals of the New Jersey shore, across the Hudson River.

Tonnage on the more important railroads has increased to as high as forty per cent. The New York Central lines report that business is so good that hundreds of extra men have been added to handle the traffic.

Reports from New York, while not immediately affecting business on the Pacific Coast, nevertheless, point the way for increased activity, that is certain to make its way west. New York City is the nucleus around which waves of good business find source. Experts see in New York's trade a barometer for general business conditions in all sections, and a goodly movement of freight is the best mercurial for an upward trend.

True it is, that the great crop-producing sections form the basic foundation for good or evil in the business world; nevertheless, the slightest fluctuation or change in any sort of crop condition, is at once recorded in the New York market, and the railroads are the first to feel the effects. The activities of the New York marts augurs good business for the Pacific Coast.

* * * * *

American Builders' Week Is Success.

American Builders' Week at the Panama-Pacific International Exposition will go down in history as a convention made memorable by a gathering of builders, unprecedented in point of numbers and interest. To Architect G. Alexander Wright of San Francisco is accorded high praise for the success of the meeting, as his efforts constituted the chief work in preparation for the splendid assembly.

Meier and Frank Company Building.

The Meier & Frank Company Building, illustrated in this issue, cost, including fixtures, $1,500,000. Brick and terra cotta was used for exterior facing.

In area the building is equal to eleven acres of floor space. Twelve stories in height, it occupies a square block. Architects Doyle and Patterson, of Portland, combined the latest triumphs of architecture with the most modern methods of business efficiency in department stores.

Three main doorways provide means of exit and entrance to the building; one each on Morrison, Fifth and Alder Streets. Fire escapes of unobtrusive design, with gravity stairways, afford easy descent to the sidewalk in cases of emergency. The three main entrances are protected by glass and steel marquees.

The three upper stories provide room for a model grocery and bake shop, and a series of restaurants, which are distinctive features. Mechanical and storage devices also find space here. General merchandising departments are located in the basement and on the first eight floors.

Plenty of show window space has been allotted, and they are so designed as to furnish natural lighting to the main floor.

As transportation problems are just as important in a department store as are the problems of street traffic, considerable study was given to overcoming the bad features thereof. The escalator found favor with the architects and the latest design of this mechanical device was installed. Seven sections were placed in operation, three taking customers from the main floor to the fourth, and four, built on descending plan, taking them to the basement from the main floor. In addition to the escalators, ten new-type passenger-carrying elevators were installed which, including the six operating in the old and adjoining building of the Meier & Frank Company, now a part of the main store, makes sixteen machines altogether in this new building.

Entrance to Elevators
MEIER AND FRANK CO. BUILDING, PORTLAND
Doyle & Patterson, Architects

The stairways are completely shut off from the building, being built inside of a shaft, encased in steel. Heavy steel doors protect all stair openings.

Probably one of the most modern installations in the building, and, for that matter, the last word in such construction in this country, is the installation of the cash tube system. An idea of the extent of this installation can be gained from the accompanying photograph of the Meier & Frank battery. The tubes travel at the rate of a hundred feet per second, by the impetus of compressed air. The tubes converge at a long switch board, located in the basement.

A series of cashiers are on the receiving end of these tubes, where change is quickly made. The head cashier sees that the cartridges are removed from the tubes promptly, that the right change is made and made speedily, and that the tubes go back to their proper destination. A mechanical device registers these things before the eyes of the cashier, who can tell at a glance whether the under cashiers have allowed the cartridge to remain unduly long in the tubes.

For customers with charge accounts, a different set of tubes is used, holding the sales slip and operated directly to the main office.

A growing feature of department store construction, and one which has taken a great hold on the American public, is that section of the store devoted to the children's playground. Every convenience for the amusement and entertainment of the little folks has been furnished in the Meier & Frank Company store. A large corner of the fifth floor is given over to this play room, which is a veritable fairyland. Bird houses, fish ponds, and many other varieties of features, amuse the youngsters. The space even allows room for a large merry - go - round, which occupies the center of the floor. The children's playground has been carried out in such realistic manner that an almost true-to-life beach is part of the equipment. The managers secured some real piling that had been in the river for years, building a dock out of this material, with water-stain on it. Back of the dock is an expanse of sand, and back of the sand is a deft painting of the sea, with big swells about to break into foam. Description of this sort of equipment may not impart "technical" information to the architect, but it does give an idea of the ingenuity of department store management and shows the need for thought along these lines in designing such buildings. The playground even includes a nursery for the babies, with small white beds where they can drink their milk, and rocking chairs for the mothers.

The design of the building includes an observation tower, equal in height to fifteen stories from the ground. On the ledge are painted arrows pointing to spots on the

horizon, where the snowy mountains are visible, and giving the main distance and elevation of each. The tower is 210 feet from the side walk to the ledge, upon which people may lean and admire the view of the Willamette and Columbia Rivers, and the hills, which form the rim of the bowl in which the city is laid.

As representative of high business efficiency, connections are made with the telephone switch board, so that when any official is wanted, and is not in his office, a combination of colored lights is displayed on all floors, each official being given a combination of colors, and when the lights go on, he receives the signal and steps to the nearest telephone to answer the call.

The whole building is topped by a huge electric sign, standing forty-two feet above the roof. Each letter is fourteen feet high. Architect A. E. Doyle designed the letters for this sign, and it is estimated that about $500 of gold leaf was used to cover the letters. The whole sign cost about $5,000.

The section for the grocery department is ideal. The architectural design is pleasing, but, of more importance, is the acme of sanitary perfection. Great refrigerators, cooled with brine, are built in such manner that every ham, cheese and butter roll is plainly visible to the passerby. An open space at the foot is left under every fixture so that at nightfall the whole expanse of floor may be flooded and scrubbed. Plate glass protects all food stuffs from dust.

The "Dutch" room is a sort of lunch room for men, where small clubs of men may lunch and talk. The fixtures are of the conventional "Dutch" sort, fumed oak and broad window ledges. The general dining room, or as it is known, the "Colonial" room, is capable of seating two hundred people. A "Black and White" room is designed for tea parties and general gatherings of women. Even a lunch room is part of this big establishment, where patrons sit on high stools and munch sandwiches and doughnuts.

The Meier & Frank Company has been under one ownership and management for the past fifty eight years. The business was established by Aaron Meier on May 18th, 1857, at the corner of Front and Yamhill Streets. Portland had a population of 1280 at that time. In the spring of 1858, one year following the establishment of this store, four hundred and sixty votes were cast in an election for municipal officials. The assessed valuation of Portland at the time was barely one million dollars. The store carried a general stock of dry goods and groceries, shoes and men's wear. In 1875 Sigmund Frank became a member of the firm and the store was moved to First street. Mr. Frank became president in 1892, following the death of Mr. Meier.

The Company constructed a new building at Fifth, Alder and Morrison Streets in 1898. Eventually larger quarters were provided for in the construction of a ten-story building at the corner of Sixth and Alder Streets. This new building, built in 1909, was followed shortly by the death of Sigmund Frank. It was then that Abe Meier succeeded him as president of the Company, Julius L. Meier being vice-president and manager.

The magnificent new building just completed represents the present day development and growth of the Meier & Frank Company.

The Meier & Frank Company has built on the roof of its new building what is said to be probably the most extensive employees welfare department in the United States. The whole roof has been placed at the disposal of the people who work for this company. An emergency hospital, where trained nurses, doctor and all necessary conveniences are established, is a chief feature. Dining room, where meals are served at absolute cost, recreation and reading rooms, and smoking rooms for men form part of the equipment.

"It pays us to take care of our people," was the way Julius Meier expressed it, "Even if the results do not show in increased sales and more work accomplished, it will pay us in contented employees and more faithful service."

Section of Convergance of Cash Tubes
MEIER AND FRANK CO. BUILDING, PORTLAND
Doyle & Patterson, Architects

Landscape Architecture, an Art With a History.

By PROFESSOR J. W. GREGG
DIVISION OF LANDSCAPE GARDENING, UNIVERSITY OF CALIFORNIA

"PANORAMIC" VIEW OF MAIN TERRACE "EL FLUREIDIS"
Modified Persian in Santa Barbara

Definitness was retained, but a large unity was introduced dependent more or less upon symmetry. Symmetry was almost lacking in mediaeval times, but in the later Renaissance was carried to extremes. Repetition was almost effectively employed. Shade and and abundant water supply were always provided. Social conditions were ever in mind, in fact, the purpose of the Italian villa was largely social. These were not hunting lodges or merely aesthetic retreats, but places for social enjoyment of wealthy princes and prelates and their many friends. We can not mention here the many details thought of, but the villas of Lanti and D'Este, to mention only two of the more famous, show how perfectly all was considered.

THE HOUSE OF HENRY W. POOR, ESQ.
Jacobean Type in America

As we go forward with the years we may follow the development in the landscape design of France and England, both countries feeling to a more or less degree the influence of the Italian Renaissance, France even more than England. In the latter country more evidence of mediaeval influence and motives are to be noted. In the Italian villa and its grounds we have a single and very highly developed unit of rather limited size larger than the mediaeval unit to be sure, but still domestic in its scale. In France, while this Italian influence, is noted at first, it soon spreads to a much more vast conception. The motives of the great French landscape designers were the wealth and power of their nobility and their desire to express these two things in the surroundings of their palaces and chateaux by the extent of their finished grounds. They deviated from the Mediaeval and Italian design by adding unit after unit.

ON THE MAIN AXIS "EL FLUREIDIS"
Modified Persian, Santa Barbara

The topography being quite generally nearly level, all things were adapted to this. Terraces became broader, greater areas of water were employed and the development of the chateau appeared. Here we have the mediaeval idea of the moat seized upon, formalized and elaborated to a great extent as at Fountainbleau and Chantilly. The highly organized axial arrangement of the Italian school was retained in the French designs but the scale of everything was immensely enhanced. It became no longer domestic or human but superhuman, especially in the time of Louis XIV., the self-styled Grand Monarch, who firmly believed he was something more than human. He had Le Norte and Mansard design Versailles and Chantilly with these motives in mind. In these estates there was a greatness and a strong and simple relation of parts one to another. The scale is always colossal and the emphasis is rightly enough, under the circumstances, placed not upon convenience but almost wholly upon appearance. The purpose was to express magnificence and was wholly for effect, and the results, while grand and impressive, are not as exquisitely interesting as in some of the Italian work.

Relatively little of this grand but superhuman style spread elsewhere, although it is somewhat in evidence at Hampton Court in England and Schoenbrunn near

*—Concluded from October issue.

"BELLEFONTAINE," THE NORTH FRONT
Italian Style in America

Vienna, and Wilhelmshohe, respectively Austrian and German examples of this influence. This influence of Le Norte's style is evident not only in the later work of Haussman and Alphand and Andree at Paris, but to a certain degree of L'Enfant in his plans for the city of Washington.

English landscape design was as a rule more human, more influenced by mediaeval motives, and there was less emphasis placed upon the strictest axial and formal motives, and distinctly less symmetry than in either French or Italian work. There was a good deal of unity withal and a very distinctive difference is shown as regards the planting. In the French formal work the gravel paths are the basis of the design and the parterres, fountains, basins, pools and other details are laid out or set out, as it were, in the midst of the gravel walks which are always very much in evidence. In the best English works the effects secured were quite the opposite. There is always the background or turf and foliage masses, upon which the paths are laid out as a much more incidental feature.

THE HOUSE OF HERMAN B. DURYEA, ESQ.
The Grassed Walk, Looking South
French Mall in America

With this brief and altogether inadequate resume of the more salient principles of earlier landscape design before us, we can clearly determine chronologically three distinct periods over which the art can be traced in the succession of time over the world.

(a) The period of Antiquity,—from the earliest times to the beginning of the Roman Empire. (b) The period of the Middle Ages,—including the rise and fall of the Roman Empire, and (c) The period of Modern Times,—extending from the fall of the Roman Empire to the present day. In each one of these periods of time we find the art of landscape design influenced further by the geographical, political and religious conditions of the times to such an extent that the result can be clearly traced out in our landscape architecture of the present day especially here in America. Our problems are many and varied and far removed in the character of the surroundings, climate and other conditions from almost all of those we have mentioned. The trained landscape architect in America uses his study of these earlier problems if he has the right spirit as a guide to correct principles solely. These earlier European landscape designers did this in their own case and were constantly and indefatigably searching for right principles or design applicable to the particular problem in hand. The best of them never slavishly copied others and we should not. We should use these right principles to secure distinctive American types of work. Let us now briefly consider some of the many classes or types of problems in landscape design met with in the practice of this profession in America today, and note how we are helped in their solution by this study of the past.

In the first place what may be termed domestic landscape architecture,—the designing or suburban and country estates and grounds. How varied these are, located on the rugged coasts of Mains, the tropic sands of Florida, amid the mountains and on the level prairies and amidst the semi-tropic conditions of the Pacific Coast. How make rules for such varieties of conditions? Manifestly no rule of thumb will answer. Right basic principles are of the utmost importance, however, and these are suggested by our earlier studies. From Egypt,

Continued on Page 226.

"FAULKNER FARM"—THE POOL BEFORE THE CASINO
Modified Italian Pool and Pergola in America

Visiting Architects Stimulate Chapter Unity.

By SYLVAIN SCHNAITTACHER

VISITING AND LOCAL ARTHITECTS, THEIR WIVES AND FRIENDS GATHERED IN SAN FRANCISCO
Read from left to right, top row—No. 1, M. M. Bruce; 2—D. D. Kearns· 4—Austin Allen; 5—Herman Barth; 6—Edward Stoltz; 7—Walter Parker; 8—Herbert Mainzer; 9—Frederick Boese; 12—J. A. Drummond; 15—B. S. Hirschfield; 22—C. Swain; 23—Will Shea; 24 A. E. Doyle. Seated—2—G. Page; 5—E. Garden; 6—T. J. Welsh; 7—E. J. Kraft; 8—D. C. Day; 9—Scofield; 10—Sylvain Schnaittacher; 11—Morgan; 12—Fenner; 13—Mrs. Fenner.

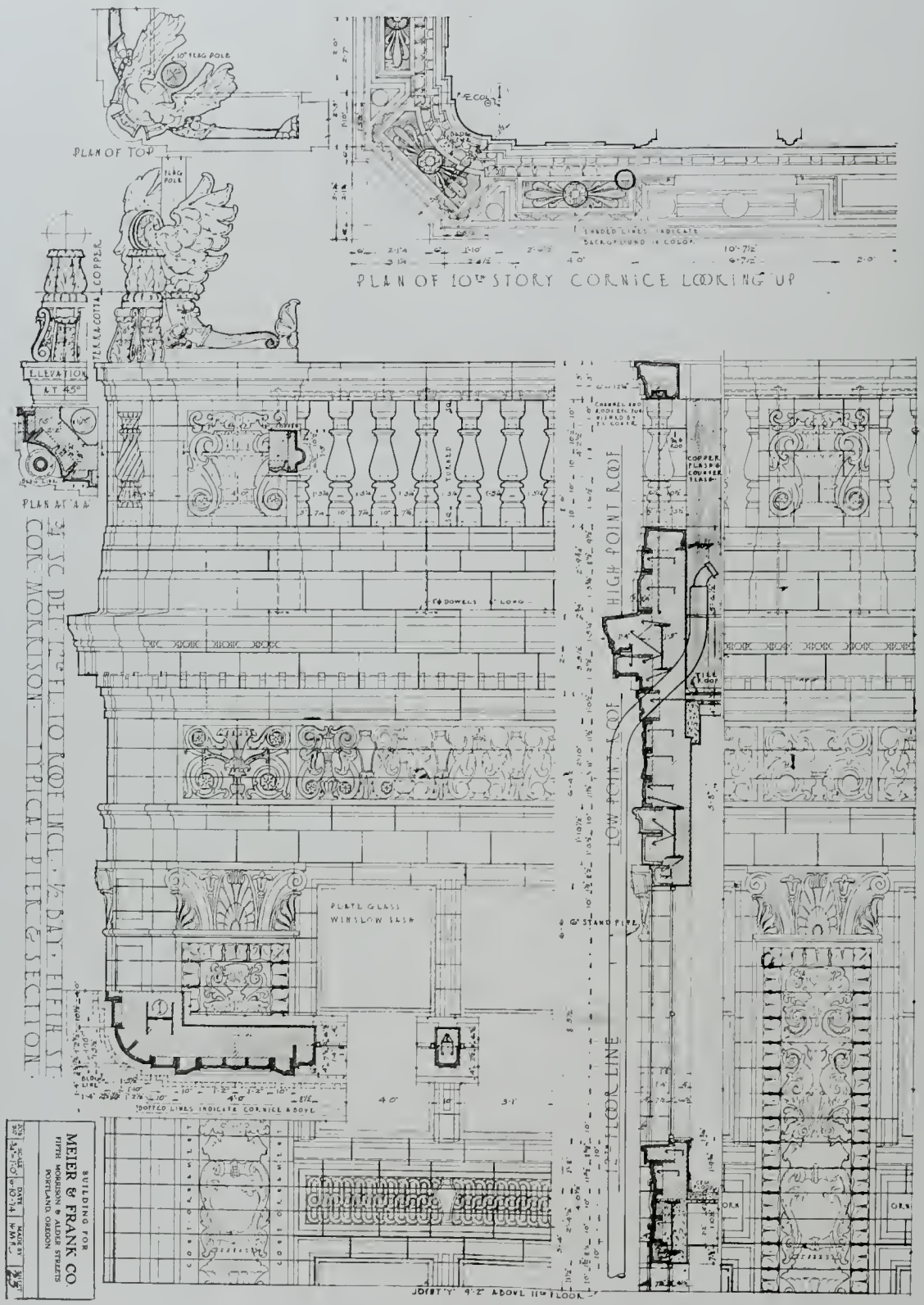
The American Institute of Architects' excursion to visit the Panama-Pacific International Exposition, San Francisco, and the Exposition at San Diego, arrived at San Francisco by steamer on the afternoon of October 6th. The party was under the Chairmanship of Mr. Julian Clarence Levi of the New York Chapter, and had stopped over at Minneapolis, Seattle and Portland en route. The following officials of the Institute were of the party: President R. Clipston Sturgis of Boston, Treasurer John Laurence Mauran of St. Louis, Secretary Burt L. Fenner of New York, John Hall Rankin of Philadelphia, W. R. B. Wilcox of Seattle and Octavius Morgan of Los Angeles.

A meeting under the auspices of the San Francisco Chapter was held in the Italian Room of the Hotel St. Francis on October 8th. In addition to the visiting party

Continued on Page 234

Read from left to right, top row—No. 1—Stead; 3—T. C. Young; 6—Smith O'Brien; 9—Bellows· 11—C. A. Mussdorfer; 12—Julian Clarence Levy; 13—White; 14—Widdowson; 15—Hodges, 16—Glidden; 17—Backus; 18—Naramore. Seated—No. 1—R. Clipston Sturgis, 2—Mrs. Wm. B. Faville; 3—Mauran; 4—Wm. B. Faville; 5—Wilcox; 6—Rankin; 7—Wm. Mooser; 8—Oscar Haupt; 9—T. P. Ross; 10—Matt O'Brien; 11—J. Dunn; 12—Wm. Binder; 14—John J. Donovan.

MEIER & FRANK COMPANY DEPARTMENT STORE, PORTLAND
DOYLE & PATTERSON, ARCHITECTS


PLAN OF TOP
PLAN OF 10TH STORY CORNICE LOOKING UP
ELEVATION AT 45°
PLAN AT A-A
COR. MORRISON—TYPICAL PIER & SECTION.
3d SC DET. 12th FL. 10 ROOF INCL. ½ BAY. FIFTH ST.
HIGH POINT ROOF
LOW POINT ROOF
FLOOR LINE
PLATE GLASS WINDOW SASH
DOTTED LINES INDICATE CORNICE ABOVE
JOIST 9"-2" ABOVE 11th FLOOR
BUILDING FOR
MEIER & FRANK CO.
FIFTH MORRISON & ALDER STREETS
PORTLAND, OREGON

DETAIL OF UPPER STORIES
MEIER & FRANK COMPANY DEPARTMENT STORE, PORTLAND
DOYLE & PATTERSON, ARCHITECTS

UPPER STORIES
MEIER & FRANK COMPANY DEPARTMENT STORE, PORTLAND
DOYLE & PATTERSON, ARCHITECTS

INTERIOR FIRST FLOOR

FIFTH STREET ENTRANCE

MEIER & FRANK COMPANY DEPARTMENT STORE, PORTLAND

DOYLE & PATTERSON, ARCHITECTS

HALE BROS. BUILDING, SAN FRANCISCO
REID BROS., ARCHITECTS

DETAIL OF UPPER STORIES
HALE BROS. BUILDING, SAN FRANCISCO
REID BROS., ARCHITECTS

POMPEIAN COURT
HALE BROS. BUILDING, SAN FRANCISCO
REID BROS., ARCHITECTS

ARCADE
THE EMPORIUM, SAN FRANCISCO
ALBERT PISSIS, ARCHITECT

DETAIL OF MARQUEE AND MAIN ENTRANCE DOORWAY
HALE BROS. BUILDING, SAN FRANCISCO
REID BROS., ARCHITECTS

INTERIOR VIEW SHOWING PORTION OF GREAT DOME
THE EMPORIUM, SAN FRANCISCO
ALBERT PISSIS, ARCHITECT

THE EMPORIUM, SAN FRANCISCO
ALBERT PISSIS, ARCHITECT

THE WHITE HOUSE, SAN FRANCISCO
ALBERT PISSIS, ARCHITECT.

MAIN ENTRANCE
THE WHITE HOUSE, SAN FRANCISCO
ALBERT PISSIS, ARCHITECT

MAIN ENTRANCE
HAMBURGER'S DEPARTMENT STORE, LOS ANGELES
A. F. ROSENHEIM, ARCHITECT

HAMBURGER'S DEPARTMENT STORE, LOS ANGELES
A. F. ROSENHEIM, ARCHITECT

ROBINSON BUILDING, LOS ANGELES
NOONAN & RICHARDS, ARCHITECTS AND ENGINEERS

GENERAL VIEW OF INTERIOR
ROBINSON BUILDING, LOS ANGELES
NOONAN & RICHARDS, ARCHITECTS AND ENGINEERS

BULLOCK'S STORE, LOS ANGELES
JOHN PARKINSON and EDWIN BERGSTROM, ARCHITECTS
ROLLAND H. HESS, DESIGNER OF EQUIPMENT

BROADWAY DEPARTMENT STORE, LOS ANGELES
JOHN PARKINSON and EDWIN BERGSTROM, ARCHITECTS

Architectural Treatment of a Modern Store.

The basic idea governing the treatment of a dry goods store problem may be conceived from its purpose—a ladies' shopping building. This makes appropriate a differentiation in exterior appearance from the ordinary types of commercial structure. As lighting is a special consideration, both interior and exterior requirements may be served well by cutting the window openings in numerous small units, and again subdividing the sashes themselves into numerous small units.

Treatment of each floor as a unit, from the employees' standpoint, with locker rooms, toilet accommodations, etc. for all employed on the floor, provides for comfort and efficiency.

Merchandise stock in the seven story Robinson building is centered on the sixth floor, to which trucks are taken direct for unloading on a special freight elevator opening on the street. On the lower floors the treatment of the space in squares, with display fixtures around the periphery of each square, allows each department to carry in the center of each square a liberal reserve stock, eliminating possible delays in service. Every sales section is equipped with cash register company telephones and charge telephone, the latter operated under the system devised by the National Cash Register Co. These telephones are at the wrapping station in the center of each sales square, and connection is made at this central point with the chute to the delivery department in the west end of the basement. Each square is so equipped that all stock, whether display or reserve, may be fully enclosed in the specially designed fixtures, so that it is unnecessary to spread sheets at night.

Comfort and convenience of customers are served by special arrangements in very large variety. This service begins exteriorily in provision for those coming to shop in automobiles, who may drive down a moderate incline to a section of the basement and park their machines, in care of an attendant, obtaining direct access to the shopping floors by elevator. Space is allowed for 150 automobiles. Two spacious special entrances give direct access to the basement which is to be devoted to special "bargain" merchandise of interest to persons who are not always regular customers on the floors above.

Outgoing customers will have their carriages called for them by an electrical numerical call, here adopted to store use for the first time, although it has become familiar to the New York City theatregoers.

The rest room on the second floor is very spacious, 70 by 60 feet, commanding the best views from the building, on Seventh Street and Grand Avenue. Equipment includes writing desks, chairs and lounges of very comfortable types, and the room is entirely shut off from the rest of the floor.

Adjoining the rest room is the "beauty department," which is in equipment something in advance of purely isolated establishments for a similar purpose. The unique hair dressing department is finished in marble and tile, and is not only supplied with the modern electrical equipment, but has new features in plumbing equipment for service. Each room has pipes and faucets for six distinct services, hot and cold ordinary water, hot and cold distilled water, and, something entirely new, hot and cold shampoo mixture. Use of cans and receptacles of any portable, inconvenient and unsightly character is thus made entirely unnecessary.

The seventh floor has for customers a very large dining room, lighted on East, North and West, and opening on east and west sides through series of French doors to roof gardens, with porches.

The desire of customers for exclusive and private service is recognized by not only providing in the design for privacy, but for service which may be complete without any necessity for interruptions, or journeying about the building. In the jewelry department there is a special service room in the center of the square. In the millinery, ready-to-wear, mourning, and infants' departments, customers may be waited on in specially designed French rooms, in direct connection with special stock, work and fitting rooms, so that fittings and alterations may be made without calling upon the resources of the general work rooms and fitting rooms massed on the fifth floor.

The elevators include several unique points. Possible hesitancy of timid ladies who may have their nerves affected, as some do, by the sight of motion, is guarded against by making the cars entirely enclosed. Indirect lighting is used, a new treatment giving the best effect in an all-enclosed, enamel decorated car. There are eight passenger elevators, and two additional shafts, completely equipped except for the machinery, which may be added when the growth of patronage requires their service.

Lighting of the most advanced type is employed in numerous ways to facilitate accurate serving of customers' requirements. The show case lighting throughout the building is by Linolite lamps, with Farink and mirror reflectors, all French rooms having concealed, indirect lighting. The most interesting light is in the special room provided in the dress goods department where fabrics can be shown in any conceivable condition of light as to its intensity and color. For example actresses can duplicate special peculiar conditions of light which they will have to encounter upon the stage. The illumination produced by moonlight and Japanese lanterns for any festival or any other requirements, can be imitated. Light from the lamps is projected through screens on to the diffusing screen which practically forms the whole ceiling. The current for every different color, goes through a dimmer which controls the density so that the resultant tint composed of any desirable brilliancy and intensity of pure colors of the spectrum may be produced by electrical manitulation. The general lighting plan has been throughout to produce a light as near as possible to an imitation of daylight, resulting in the employment of specially designed fixtures and the use of nitrogen lamps and specially made colored diffusing glass. The building enjoys the advantage of daylight on all three sides by the purchase of a strip at the rear which insures perpetual light and which provides for the approach to the basement of automobiles. All the display fixtures on the floors are restricted to a maximum height of five feet two inches, giving an absolutely open space above the eye line.

The fifth floor is devoted to the internal organization of the store and has three main sections. In the east end are the administration offices, cashier's department,

Continued on Page 234

Current Notes and Comment.

J. F. Shea of Portland, installed the heating and ventilating system in the Meier & Frank Company building of Portland, illustrated in this issue. This installation cost $50,000.

* * * * *

The Otis Elevator Company installed the system of escalators in the Meier & Frank Company building, illustrated in this issue, besides putting in all the elevators used. The Otis system of escalators has found favor at the hands of western architects, and is being used quite extensively.

* * * * *

Columbia Wire & Iron Works of Portland, were contractors for the installation of all the ornamental iron work in the Meier & Frank Building, Portland. This contract was the largest of its kind ever let in that city, and the Columbia Wire & Iron Works have been the recipient of considerable praise for their most excellent work in this connection.

* * * * *

Harmonious and pleasant environment in design and layout to the subconscious satisfaction of the buying public is the basic idea in the work of Rolland H. Hess, of Los Angeles, designer of interior store equipment. The result thus secured in Bullock's, Hamburger's, and other stores, of Los Angeles, are testimonials to this idea.

* * * * *

The floors of the Meier & Frank Company building are constructed of floretyle, manufactured by the Trussed Concrete Company of Youngstown, Ohio. The same company also furnished the special steel casement sash in the employees recreation rooms. This is said to be the finest installation of steel sash on the Pacific Coast.

Architect Peter L. Sala has opened offices at 711 Commercial & Savings Bank Building, Stockton.

* * * * *

The architectural terra cotta on the Broadway Department Store, Los Angeles, shown in this issue, was supplied by N. Clark & Sons.

* * * * *

The white enamel architectural terra cotta used on the exterior of the Meier & Frank Company Building, Portland, was manufactured by Gladding, McBean & Company. This company also supplied the terra cotta on Hamburger's Store, Los Angeles.

* * * *

The Pacific Sewer Pipe Company of Los Angeles, supplied two hundred and sixty five thousand brick in the Robinson Building of that city, illustrated in this issue. The brick are enameled in a mottled gray. This is one of the largest jobs of its kind ever executed in Southern California, and great credit is due the Pacific Sewer Pipe Company for producing such a beautiful brick.

* * * * *

J. B. Losey, northwestern representative for Berry Bros., formerly of the architectural department of that company in San Francisco, has been notified that he has been given the "star" for the month of August, a custom that holds with the company in recognition of that salesman whose record of sales is the largest each month.

Mr. Losey advises us that Berry Bros. have gotten out a special, twenty-four piece sample case of their varnishes, made up of western woods, for the special use of Pacific Coast architects. Architects can secure one of these samples by request at any Pacific Coast branch of Berry Bros.

LANDSCAPE ARCHITECTURE, AN ART WITH A HISTORY

Continued from Page 207

Greece and Rome, from Italy, France and England do we draw our inspiration, but none of their works should we copy, only the principles there determined.

In these domestic problems there are always two main groups or factors of importance; first, the local ones, that is to say, the conditions of topography, existing vegetation, climate, soil, proximity and direction of outside factors affecting the accessibility of the site, and second, the personal factor. Who is the home for? How many are to live in it? Is it to be an all-the-year-round one, or to be used only in the summer or winter What funds are available for the adjustment of the land and improvement of the landscape? All these and many other things are to be ascertained as a basis from which to proceed. A careful consideration of these two points, the local and the personal, will prevent any sameness of treatment even in similar localities.

As we particularly noted in the case of the design of the Italian villa and grounds, fitness, accessibility as to supplies or material, water and so on, are considered. Provision is made for means of approach both for guests and service. Views or outlook from the site and the aspect of the finished scheme from without are all studied, and the proportioning of the three vital elements of the design, the entrance, the service and the living or plasure portions of the grounds are carefully determined, usually the greater area being devoted to the latter. Local topographical and climatic conditions affect all these points as do also the client's personal desires.

From the work of these earlier designers we get inspiration helping us to determine the general character of the special treatment. Shall it be formal or informal, and here is where there should be the heartiest co-operation between the client, the architect of the building and the landscape architect, for manifestly the type of house selected should suit the site as well as fit it, and the best design is that which most comprehensively meets all these conditions. While some sites demand much more emphatically than others rigid formality, almost every house no matter how informal its general character, is composed of rigid straight lines and definite angles. There is therefore almost always correctness in some formality immediately about such a structure. This formality may not go so far as to involve exact symmetry or balance and the gradual cession of any sort of formality, the merging of this sort of design into the free and informal natural surroundings is of the utmost importance in securing that unity and harmony without which no design is successful.

Glidden's Cement Coating Proves Worth

HEALD'S BUSINESS COLLEGE, SAN FRANCISCO
Sylvain Schnaittacher, Architect
Glidden's Liquid Cement on Exterior, Applied 1913

DAVIS-SCHONWASSER COMPANY BUILDING, SAN FRANCISCO
McDonald & Applegarth, Architects
Glidden's Liquid Cement on Exterior, Applied 1909

Experts on damp proofing and the covering of the exterior walls of buildings agree that now is a good time to paint them to protect against the rains of the coming season. Glidden's Stucolor Liquid Cement Coating is pronounced a very effective damp proofing and beautiful decorative paint for exterior cement and plastered walls to prevent seepage of moisture, which destroys interior decorations. Such protection and decoration is real economy and adds to the rental value. Time exposure is a fine proof of good exterior paint and Glidden's concrete finishes have stood the test of time, as the present condition of many San Francisco structures prove the high quality of this material. We show on this page a few of such buildings, which have been covered with Glidden's Stucolor, giving the date of application.

Glidden's advanced finishes for exterior and interior plastering surfaces are standards of quality. The Hale Building, illustrated in this issue, is a splendid example of the beauty of Glidden's Stucolor.

McKENZIE BUILDING, SAN FRANCISCO
R. W. Moller, Architect—Glidden's Liquid Cement on Exterior, Applied 1913.

Glidden's products are specified and used on the finest hospital institutions, churches, office buildings, schools, residences,—buildings where a durable and lasting finish of first importance. Durability combined with beauty of finish are found in Glidden's products. Many architectural achievements owe something to Glidden for the appearance.

A full stock of Glidden's products are carried in San Francisco by the Whittier Coburn Co., corner Howard and Beale streets. These people are in a position to give the architect advice regarding Glidden's finishes, which has been gained from many years' experience.

FIRST CONGREGATIONAL CHURCH, SAN FRANCISCO
Reid Bros., Architects
Glidden's Liquid Cement on Exterior, Applied 1915

OLYMPIC CLUB, SAN FRANCISCO
John Albert Bauer, Architect
Glidden's Liquid Cement on Exterior, Applied 1911

Development in the Design of Concrete Floor Slabs.

By C. B. HOPKINS

Early in the history of reinforced concrete, designers recognized the necessisty of employing long spans for floor slabs to obtain real economy in this, the most important part of building design. Many types were developed, depending on the individual designer; types involving in some, different methods of calculating stresses, in others, various arrangements of slabs, beams and columns, and varied types of reinforcing steel.

Meyer System Floor Construction
MAY CO. DEPARTMENT STORE, CLEVELAND, OHIO
Graham, Burnham Co., Architects

Solid concrete slabs with one way reinforcing proved too uneconomical in concrete and steel for long span construction and Hennibee and Norcross, at an early stage in concrete construction, developed systems of placing reinforcing bars in two or more directions so as to economize in concrete and steel. Flat slabs or mushroom types of construction were subsequently developed from these systems. These types of construction still proved uneconomical for light floor loadings and were not adopted to steel frame construction.

Terra cotta hollow tile was next brought into use as a substitute for concrete in lightening the dead load of the floor slab. The use of hollow tile exclusively as a floor slab ended abruptly when our fire of 1906 proved it to be entirely inadequate as a fire resisting material. The combination of hollow tile and concrete joist construction was the next development. Here the hollow tile was simply used as a filler to take the place of useless concrete, thereby reducing the dead weight of construction. The slab became a series of reinforced concrete joists separated by a 12 inch wide hollow tile. This proved to be a rather satisfactory floor slab for spans from 12 to 18 feet and for live loads up to 125 pounds per square foot and was used extensively.

Metal Lath and Plastered Ceiling—Meyer System Floor Construction
MAY CO. DEPARTMENT STORE, CLEVELAND, OHIO
Graham, Burnham Co., Architects

Designers of this type of construction early discovered that the hollow tile, weighing 35 pounds per cubic foot, could easily be done away with by the substitution of a metal or asbestos floor tile, thereby reducing the dead weight of the slab still further. With the advent of the metal tile, a little investigation proved that the most economical spacing for the joists was 24 to 25 inch centers and with the thin intervening top slab connecting these joists, the full benefit of the tee section was obtained with a minimum amount of concrete and reinforcing steel. This construction proved economical for spans from 12 feet to 25 feet and even 30 feet and for live loads up to 250 pounds per square foot. It can be used with equal economy in connection with concrete frame of steel frame buildings.

It is interesting to note, and seems rather strange that during this economical development all efforts have been directed towards obtaining an economical system of construction, while the type of centering or form-work has remained unchanged. Considering the fact that the cost of centering is approximately one-third of the total cost of concrete work in buildings, and that it is practically a total loss at the completion of the work, it is a very logical place to introduce economy. Economy in form-work can best be effected by the uses of steelforms made in standard shapes, which effect economy in concrete and steel and efficiency in construction.

With the idea of embodying both economy in type of design and economy in form work, The

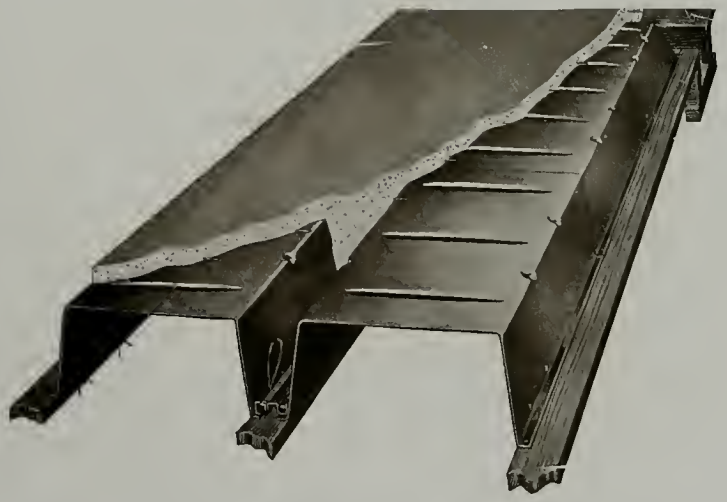
Meyer Steelforms were patented and placed upon the market by the Concrete Engineering Company. The accompanying cut shows clearly the use of the Standard Meyer Steelforms and the necessary wood framing for the support of the steelforms.

Steelforms are rectangular-shaped steel molds, open heavy coat of whitewash or concrete paint. For the better classes of buildings, flat ceilings may be obtained by applying expanded metal lath or wire lath directly to the concrete joists after the Steelforms are removed. When plastered this forms a very desirable hollow, sound-proof floor.

Open Ceiling Construction Resulting from use of Meyer System Metal Forms.

at the under sides and at the ends. The depressed ribs in the top surface and the bottom flange give exceptional stiffness and rigidity. This is of especial importance in supporting the heavy weights and trucking loads which occur during construction. Steelforms are made of the best quality of No. 16 gauge steel sheets, formed into the exact shape by heavy presses. The lower flanges of Steelforms are provided with nail-holes so that they may be accurately placed in position. One-quarter inch round openings are spaced along the sides of Steelforms at six-inch centers to provide for wires or hangers for ceilings. Standard Steelforms are twenty inches wide at the bottom and three feet long and are manufactured in 6, 8, 10, and 12 inch depths. Special steelforms are made in 10 inch and 15 inch widths with the same length and depths as the standard Steelforms. Meyer Steelforms are removable, subsequently allowing re-use on the same building and are offered to the builder on a rental basis, thus effecting maximum economy in concrete construction.

For factory, warehouse and garage buildings, the joists are left exposed, covering them with a



Method of Using Meyer System Metal Forms

The accompanying cuts show exterior views of the May Company Department Store in Cleveland, Ohio. The Architect adopted the Meyer Steelforms for the floors of this building after carefnl consideration. The enormous saving in structure steel, the hollow, sound-proof floors and the adaptability of the construction for concealing the usually exposed sprinkler pipes led the architects to adopt the Meyer System.

Meyer Steelforms have been in use on the Pacific Coast for the past three years and some of the more important buildings in which the forms have been used are Merchants National Bank Building, F. W. Brown Building and Wilson Apartments, Los Angeles; the Churchill Building and Southern Title and Trust Company Buildings in San Diego; Babbitt Brothers Building, Flagstaff, Arizona; the Morsehead Apartments, California & Mason streets, San Francisco. Many smaller and less noteworthy buildings have been erected using the Steelform type of construction.

The Concrete Engineering Company, owners of this and several other metal form patents, maintain a district office at

Continued on Page 238

Pacific Coast Chapters, A. I. A.

Annual Review of San Francisco Chapter

In reviewing the year's work the San Francisco Chapter of the American Institute of Architects, I shall allow the various Committee Reports to stand as a part of this document and will only briefly touch upon them.

Legislation: The most important work which the Chapter has been engaged upon is the repeal of the law of the year 1872. This most vicious law, by the combined efforts of the Southern Chapter, the State Board of Education and the Northern Chapter, has been abolished.

Co-operating with the State Board of Architecture the Chapter has rendered able assistance in the Amendment introduced regulating the use of the words "Architect" or "Architectural". This amendment passed the Senate but unfortunately, was not reported out of the Judiciary Committee of the Assembly. The purport of the Amendment was to establish a better interpretation of the use of the words "Architect" or "Architectural." The Amendment states that a person using these words to define or advertise his calling must receive a certificate from the State Board.

It is the Chapter's duty to see that an Amendment probably modeled after that of the New York law be introduced in the next session of the Legislature to cover this subject.

The Chapter was largely instrumental in having Senate Bills 42 and 43 pass the Senate and House which provided a strip of land 300 feet wide bordering the Lincoln Highway where it passes through the Forests between Tahoe and Placerville. These bills although passed by both Houses failed to receive the signature of the Governor.

A Bill was introduced and passed permitting Competition in State work. This Bill, firmly backed by the Chapter, provided for the selection or appointment of an Architect for the State Buildings in San Francisco and in Sacramento by an amendment to the State Engineering Act to the effect that "within the discretion of the authorities an Architect may be selected by appointment or by Competition for State work."

The Committee reports that Amendments to the Tenement House Law has been withdrawn and that the law stands virtually as it was previous to the present year.

An amendment in reference to Hotels and Lodging Houses modeled after the Tenement House Law has been passed with regard to fire escapes, light wells, and yards, but was vetoed by the Governor.

Competitions: The program of the Competition for the wing of the San Francisco General Hospital was approved by the Competition Committee.

The program for the Library at Sacramento was approved by the Competition Committee. This program while not as clear and definite as the Chapter would like, complies with the essentials of the Institute circular of advice and under the difficulties presented by the conditions imposed, is considered by the Board as an achievement whereby a most vicious Competition has been prevented and is now brought under the influence of the Institute.

Other competitions which will be referred to later in this Report are the Bank at Stockton in which members of the Chapter and Institute members participated, and the Competition for an Auditorium at Visalia.

Art: The Board has endeavored to create an Art Commission composed of a Committee of the San Francisco Chapter in connection with the San Francisco Artists Society, to create public sentiment and ask the Board of Supervisors for an annual appropriation sufficient to make a start in the movement for the decoration of our public buildings. A similar movement has been established in Chicago with an appropriation of $5,000.00 per year and the result has been so fortunate that we feel it an opportune time to commence a like movement in our own City.

The Board feels that the Chapter should lend its support to the Constitutional Amendment in the interest of City Planning which provided for excess condemnation of land for Parks, Boulevards, and other Municipal purposes.

A Resolution was adopted by the Chapter congratulating Governor Johnson on the Mural Paintings in the Rotunda of the State Capitol.

Entertainments: Two dinners of importance have been given by the Chapter. The first to create a closer relation between the various branches of the Architectural profession—Painters—Sculptors— and ourselves. The second dinner was given as an expression of application of the influence of Beaux Art of Paris.

The Chapter is pleased to record the visit this year of the American Institute of Architects in convention, its purpose being to fully inform the members of our Chapter of the reorganization of the Laws and By-Laws of the Institute, the broad principles upon which the Institute is founded and the necessity for all members of the Chapter to become a part of the Institute. During this convention the proposed By-Laws were carefully discussed point by point at a meeting of the Chapter and a vote was taken of approval and support.

(Signed) W. B. Faville, President,
San Francisco Chapter, A. I. A.
October 21, 1915.

Minutes San Francisco Chapter, A. I. A.

The Annual Meeting of the San Francisco Chapter of the American Institute of Architects was held in the Borgia Room of the Hotel St. Francis on Thursday evening, October 21st, 1915. The meeting was called to order by Mr. Faville, the President, at 8:20 o'clock.

Twenty-seven members were present and Messrs. Guzlum Borglum, John Zeile and Arthur Mathews were present as guests of the Chapter.

Minutes: The minutes of the meetings held September 16th, October 8th, and October 9th, 1915, were read and approved.

Standing Committees: Sub-Committee on Competitions: Mr. Mooser, for the Sub-Committee on Competitions read his annual report, which was ordered received and placed on file.

Report of Officers: The Secretary read the annual report of the Board of Directors and of the Secretary and Treasurer, both of which were ordered received and placed on file.

The Chair appointed Messrs. Bakewell and MacDonald to audit the books of the Secretary.

The President read his annual report, which was ordered received and placed on file.

Special Committees: Mr. E. A. Coxhead read his annual report, which was ordered received and placed on file.

Election of Officers: The next order of business was the election of officers for the ensuing year. There being no other nomination, the Secretary was directed to cast a ballot for Mr. W. B. Faville for the office of President. Mr. Faville was thereupon declared duly elected President for the ensuing year.

There being no other nomination, the Secretary was directed to cast a ballot for Mr. Edgar A. Mathews for the office of Vice-President. Mr. Mathews was thereupon declared duly elected Vice-President for the ensuing year.

There being no other nomination, the Vice-President cast a ballot for Mr. Sylvain Schnaittacher for Secretary and Treasurer for the ensuing year.

There being no other nomination, the Secretary was directed to cast a ballot for Messrs. Parker and Toepke for Trustees. Messrs. Parker and Toepke were thereupon declared duly elected Trustees for the ensuing year.

Nomination of Delegates: Mr. Faville, President, and Mr. Schnaittacher, Secretary, being ex-officio delegates to the next Annual Convention of the American Institute of Architects, it was necessary that nominations be made for two additional delegates. After several nominations had been made, it was duly moved, seconded and carried that all eligible Institute Members be declared nominees of the Chapter as delegates to the next Convention.

Communications: From Mr. E. C. Kemper, Executive Secretary of the A. I. A. relative to the election of delegates and alternates to the Convention which meets in Washington on December 1, 2, and 3; from Percy V. Long, President of the California Conference on City Planning, calling at-

tention to the provisions of Proposition No. 8, which is to be voted upon October 26th, entitled "Condemnation for Public Purposes."

Membership: Mr. David Salfield having submitted his resignation to the Chapter, owing to his retiring from practice, on motion duly made, seconded and carried, the same was accepted with regret.

New Business: It was duly moved, seconded and carried in accordance with Mr. Cokheda's report, that the President appoint a Chapter Committee on the "Preservation of Natural Beauties and National Monuments."

It was duly moved, seconded and carried that in accordance with a request from the California Conference on City Planning that the Chapter endorse Constitutional Amendment No. 8, and the Secretary directed to advise Mr. Long, the President of the Conference, accordingly.

It having been brought to the notice of the Chapter that it would be proper to suggest to the next Convention of the Institute, that in order to equalize the expense to each Chapter, that the railroad fares of all Delegates to the Convention should be so apportioned that each Chapter would be paying the same amount for each Delegate to the Convention—this apportionment to be made by the Institute.

On motion duly made, seconded and carried, the Secretary was directed to advise the Institute of this resolution and also that the Delegates to the Convention should be instructed accordingly.

A newspaper clipping having been read bearing on the employment of an Architect for the Sacramento County Hospital, after some discussion, it was duly moved, seconded and carried that a copy of the Circular of Advice be sent to the proper officials.

The Chair announced the appointment of the following committees:

Dinner to be given at the Zeile Studio: Messrs. Howard, Meyer, Applegarth, Coxhead, Headman and Faville.

Committee to interview Mr. B. R. Maybeck to resume his Chapter membership: Messrs. Boese, Schnaittacher, Blohme, Applegarth, Crim and Joseph.

Mr. Faville then introduced Mr. Borglum, who addressed the Chapter on the relation between Sculpture, Painting and Architecture. Mr. Borglum was listened to with great attention and at the conclusion of his remarks, was voted the thanks of the Chapter.

Mr. Arthur Mathews also spoke interestingly on Mural Paintings and was also voted the thanks of the Chapter.

Adjournment: There being no further business before the Chapter, the meeting adjourned at 10:15 o'clock.—Sylvain Schnaittacher, Secretary.

Minutes of Oregon Chapter, A. I. A.

Minutes of the Annual Meeting Oregon Chapter A. I. A., held at the Chamber of Commerce, Dec., 21, 1915: Meeting called to order by President Doyle with Messrs. Naramore, Doyle, Beckwith, Fouilhoux, Allan, Lawrence, Lazarus, Smith, Whitehouse and Holford present. There being no objection, the minutes of the meeting held Sept. 16, 1915, were approved as printed and distributed.

Standing Committee Reports: Municipal Plans and Affairs: Mr. Beckwith reported that Mr. Johnson had attended the organization meeting of the Rose Festival Association. That a temporary organization was effected and that the Chapter was asked to send three representatives at a meeting to be held Nov. 2, 1915. There being no objection the report was approved.

Program and Entertainment: Mr. Naramore outlined the work done during the year. Report approved.

Membership: Mr. Smith reported one new member secured and one other good prospect. Report approved.

Building Laws: Mr. Fouilhoux submitted following reports

"I beg to submit herewith the annual report of the Committee on Building Laws of the Chapter:

"The proposed new building code is now nearing completion as the Code Revision Committee at the City Hall has started on the second reading, which should be the final reading of the code by the committee. The Code has been entirely revised, except the section on masonry, walls, stairs, theatres and protection of openings in walls and partitions for which some additional data from the underwriters and eastern cities should be furnished before these sections are taken up.

"The Housing Code is still "pigeon-holed" somewhere at the City Hall, and so far as we know no action is to be taken in the near future. This is to be regretted in view of the enormous amount of work which was devoted to the Housing Code and also to the endorsement which it has received from the Chapter, as well as from other organizations in the city.

"A new School ordinance has been passed, which allows two stories VI class building when there is no basement and when the first story is not more than one foot above grade.

"A fire gong ordinance was proposed, but is now being redrawn by the Fire Marshal as the Ordinance as proposed seemed to favor too much some special apparatus.

The two-story mill building in inner fire district ordinance was voted down by the commissioners, and later an ordinance reducing the inner fire limits was passed by them.

"An ordinance allowing a marquise to extend 40 per cent of the street frontage of a building and not over 75 per cent of the frontage on any one street was passed by the Commissioners.

The Board of Appeal recommended that 3-story workshop or factory buildings be allowed of VI class construction instead of mill construction as heretofore required.

"An ordinance covering sprinkling of basements in the fire limits is under contemplation and is the subject of a special report from this committee presented separately."

I beg to submit herewith Report of the Building Laws Committee of the Chapter on the proposed Ordinance covering the sprinkling of basements of buildings in the fire limits:

The Basement Sprinkler Ordinance" provides that "All buildings except dwellings in the fire limits, two stories or more in height provided with a basement or cellar * * * for storage manufacture or sale of articles or materials of an inflammable or combustible nature shall have such cellars and basements, including space under the side-walk, protected with a system of automatic sprinklers * * * supplied with water from the street water main.

Wherever there are over one hundred sprinkler heads in a system, a Siamese inlet shall be provided for an outside steamer connection. Where there are more than one hundred sprinkler heads in a system, there shall be provided an alarm valve so arranged and installed as to operate a mechanical alarm gong located on the outside of building.

Existing buildings, except fire proof buildings, class I, II, and III of the Building Code * * * shall be provided with a sprinkler system as herein specified within three years from and after the date of passage of this ordinance."

It is estimated by the Fire Department that about 10 per cent of all fires start in basements, but that these fires cause about 25 per cent of the total fire loss.

About 10 per cent of losses due to fires are actually caused by fire, the remaining 85 per cent being from smoke and water damage.

Basement fires are difficult of access and of great danger to firemen, besides causing great smoke danger to occupants of buildings.

Chief Stevens says that if the basement of the Alisky Bldg. had been sprinklered the damage in that fire would probably have been less than $1000 instead of $235,000 as reported in the papers.

In Portland last year the fire loss was approximately $1,800,000. A complete basement sprinkler equipment in Portland would cost $600,000 to $800,000 with a chance to save up to $450,000 a year in fire losses or a possible annual return of over 50 per cent on the investment, in addition to which the underwriters offer a tentative reduction of 5 to 10 per cent in premiums on buildings so equipped.

At this time, when insurance premiums in Portland are not covering fire losses, to say nothing of overhead expenses and profits and insurance companies are considering an increase of rates, is not this safeguard worth advocating?" Report approved.

Competition: Mr. Whitehouse reported that he felt that under the new code there was a much better chance of securing comptition on public buildings. Report approved.

Professional Practice: Mr. Lazarus brought up the possibility of new fee arrangement based on cost of draughting and overhead plus fee to architect for personal service. Report approved.

Legislation: No report.

Educational: Architectural League: Mr. Whitehouse went over work of Atelier and stated that in the competition held for prizes offered by Chapter to Atelier and the University of Oregon students in arehitecture, the University students made a good showing but that the Atelier work was not

Pacific Coast Chapters, A. I. A.

Annual Review of San Francisco Chapter

In reviewing the year's work of the San Francisco Chapter of the American Institute of Architects, I shall allow the various Committee Reports to stand as a part of this document and will only briefly touch upon them.

Legislation: The most important work which the Chapter has been engaged upon is the repeal of the law of the year 1872. This most vicious law, by the combined efforts of the Southern Chapter, the State Board of Education and the Northern Chapter, has been abolished.

Co-operating with the State Board of Architecture the Chapter has rendered able assistance in the Amendment introduced regulating the use of the words "Architect" or "Architectural". This amendment passed the Senate but unfortunately, was not reported ont of the Judiciary Committee of the Assembly. The purport of the Amendment was to establish a better interpretation of the use of the words "Architect" or "Architectural." The Amendment states that a person using these words to define or advertise his calling must receive a certificate from the State Board.

It is the Chapter's duty to see that an Amendment probably modeled after that of the New York law be introduced in the next session of the Legislature to cover this subject.

The Chapter was largely instrumental in having Senate Bills 42 and 43 pass the Senate and House which provided a strip of land 300 feet wide bordering the Lincoln Highway where it passes through the Forests between Tahoe and Placerville. These bills although passed by both Houses failed to receive the signature of the Governor.

A Bill was introduced and passed permitting Competition in State work. This Bill, firmly backed by the Chapter, provided for the selection or appointment of an Architect for the State Buildings in San Francisco and in Sacramento by an amendment to the State Engineering Act to the effect that "within the discretion of the authorities an Architect may be selected by appointment or by Competition for State work."

The Committee reports that Amendments to the Tenement House Law has been withdrawn and that the law stands virtually as it was previous to the present year.

An amendment in reference to Hotels and Lodging Houses modeled after the Tenement House Law has been passed with regard to fire escapes, light wells, and yards, but was vetoed by the Governor.

Competitions: The program of the Competition for the wing of the San Francisco General Hospital was approved by the Competition Committee.

The program for the Library at Sacramento was approved by the Competition Committee. This program while not as clear and definite as the Chapter would like, complies with the essentials of the Institute circular of advice and under the difficulties presented by the conditions imposed, is considered by the Board as an achievement whereby a most vicious Competition has been prevented and is now brought under the influence of the Institute.

Other competitions which will be referred to later in this Report are the Bank at Stockton in which members of the Chapter and Institute members participated, and the Competition for an Auditorium at Visalia.

Art: The Board has endeavored to create an Art Commission composed of a Committee of the San Francisco Chapter in connection with the San Francisco Artists Society, to create public sentiment and ask the Board of Supervisors for an annual appropriation sufficient to make a start in the movement for the decoration of our public buildings. A similar movement has been established in Chicago with an appropriation of $5,000.00 per year and the result has been so fortunate that we feel it an opportune time to commence a like movement in our own City.

The Board feels that the Chapter should lend its support to the Constitutional Amendment in the interest of City Planning which provided for excess condemnation of land for Parks, Boulevards, and other Municipal purposes.

A Resolution was adopted by the Chapter congratulating Governor Johnson on the Mural Paintings in the Rotunda of the State Capitol.

Entertainments: Two dinners of importance have been given by the Chapter. The first to create a closer relation between the various branches of the Architectural profession—Painters—Sculptors— and ourselves. The second dinner was given as an expression of application of the influence of Beaux Art of Paris.

The Chapter is pleased to record the visit this year of the American Institute of Architects in convention, its purpose being to fully inform the members of our Chapter of the reorganization of the Laws and By-Laws of the Institute, the broad principles upon which the Institute is founded and the necessity for all members of the Chapter to become a part of the Institute. During this convention the proposed By-Laws were carefully discussed point by point at a meeting of the Chapter and a vote was taken of approval and support.

(Signed) W. B. Faville, President,
San Francisco Chapter, A. I. A.
October 21, 1915.

Minutes San Francisco Chapter, A. I. A.

The Annual Meeting of the San Francisco Chapter of the American Institute of Architects was held in the Borgia Room of the Hotel St. Francis on Thursday evening, October 21st, 1915. The meeting was called to order by Mr. Faville, the President, at 8:20 o'clock.

Twenty-seven members were present and Messrs. Guzlum Borglum, John Zeile and Arthur Mathews were present as guests of the Chapter.

Minutes: The minutes of the meetings held September 16th, October 8th, and October 9th, 1915, were read and approved.

Standing Committees: Sub-Committee on Competitions: Mr. Mooser, for the Sub-Committee on Competitions read his annual report, which was ordered received and placed on file.

Report of Officers: The Secretary read the annual report of the Board of Directors and of the Secretary and Treasurer, both of which were ordered received and placed on file.

The Chair appointed Messrs. Bakewell and MacDonald to audit the books of the Secretary.

The President read his annual report, which was ordered received and placed on file.

Special Committees: Mr. E. A. Coxhead read his annual report, which was ordered received and placed on file.

Election of Officers: The next order of business was the election of officers for the ensuing year. There being no other nomination, the Secretary was directed to cast a ballot for Mr. W. B. Faville for the office of President. Mr. Faville was thereupon declared duly elected President for the ensuing year.

There being no other nomination, the Secretary was directed to cast a ballot for Mr. Edgar A. Mathews for the office of Vice-President. Mr. Mathews was thereupon declared duly elected Vice-President for the ensuing year.

There being no other nomination, the Vice-President cast a ballot for Mr. Sylvain Schnaittacher for Secretary and Treasurer for the ensuing year.

There being no other nomination, the Secretary was directed to cast a ballot for Messrs. Parker and Toepke for Trustees. Messrs. Parker and Toepke were thereupon declared duly elected Trustees for the ensuing year.

Nomination of Delegates: Mr. Faville, President, and Mr. Schnaittacher, Secretary, being ex-officio delegates to the next Annual Convention of the American Institute of Architects, it was necessary that nominations be made for two additional delegates. After several nominations had been made, it was duly moved, seconded and carried that all eligible Institute Members be declared nominees of the Chapter as delegates to the next Convention.

Communications: From Mr. E. C. Kemper, Executive Secretary of the A. I. A. relative to the election of delegates and alternates to the Convention which meets in Washington on December 1, 2, and 3; from Percy V. Long, President of the California Conference on City Planning, calling at-

tention to the provisions of Proposition No. 8, which is to be voted upon October 26th, entitled "Condemnation for Public Purposes."

Membership: Mr. David Salfield having submitted his resignation to the Chapter, owing to his retiring from practice, on motion duly made, seconded and carried, the same was accepted with regret.

New Business: It was duly moved, seconded and carried in accordance with Mr. Cokheda's report, that the President appoint a Chapter Committee on the "Preservation of Natural Beauties and National Monuments."

It was duly moved, seconded and carried that in accordance with a request from the California Conference on City Planning that the Chapter endorse Constitutional Amendment No. 8, and the Secretary directed to advise Mr. Long, the President of the Conference, accordingly.

It having been brought to the notice of the Chapter that it would be proper to suggest to the next Convention of the Institute, that in order to equalize the expense to each Chapter, that the railroad fares of all Delegates to the Convention should be so apportioned that each Chapter would be paying the same amount for each Delegate to the Convention—this apportionment to be made by the Institute.

On motion duly made, seconded and carried, the Secretary was directed to advise the Institute of this resolution and also that the Delegates to the Convention should be instructed accordingly.

A newspaper clipping having been read bearing on the employment of an Architect for the Sacramento County Hospital, after some discussion, it was duly moved, seconded and carried that a copy of the Circular of Advice be sent to the proper officials.

The Chair announced the appointment of the following committees:

Dinner to be given at the Zeile Studio: Messrs. Howard, Meyer, Applegarth, Coxhead, Headman and Faville.

Committee to interview Mr. B. R. Maybeck to resume his Chapter membership: Messrs. Boese, Schnaittacher, Blohme, Applegarth, Crim and Joseph.

Mr. Faville then introduced Mr. Borglum, who addressed the Chapter on the relation between Sculpture, Painting and Architecture. Mr. Borglum was listened to with great attention and at the conclusion of his remarks, was voted the thanks of the Chapter.

Mr. Arthur Mathews also spoke interestingly on Mural Paintings and was also voted the thanks of the Chapter.

Adjournment: There being no further business before the Chapter, the meeting adjourned at 10:15 o'clock.—Sylvain Schnaittacher, Secretary.

Minutes of Oregon Chapter, A. I. A.

Minutes of the Annual Meeting Oregon Chapter A. I. A., held at the Chamber of Commerce, Dec., 21, 1915: Meeting called to order by President Doyle with Messrs. Naramore, Doyle, Beckwith, Fouilhoux, Allan, Lawrence, Lazarus, Smith, Whitehouse and Holford present. There being no objection, the minutes of the meeting held Sept. 16, 1915, were approved as printed and distributed.

Standing Committee Reports: Municipal Plans and Affairs: Mr. Beckwith reported that Mr. Johnson had attended the organization meeting of the Rose Festival Association. That a temporary organization was effected and that the Chapter was asked to send three representatives at a meeting to be held Nov. 2, 1915. There being no objection the report was approved.

Program and Entertainment: Mr. Naramore outlined the work done during the year. Report approved.

Membership: Mr. Smith reported one new member secured and one other good prospect. Report approved.

Building Laws: Mr. Fouilhoux submitted following reports

"I beg to submit herewith the annual report of the Committee on Building Laws of the Chapter:

"The proposed new building code is now nearing completion as the Code Revision Committee at the City Hall has started on the second reading, which should be the final reading of the code by the committee. The Code has been entirely revised, except the section on masonry, walls, stairs, theatres and protection of openings in walls and partitions for which some additional data from the underwriters and eastern cities should be furnished before these sections are taken up.

"The Housing Code is still "pigeon-holed" somewhere at the City Hall, and so far as we know no action is to be taken in the near future. This is to be regretted in view of the enormous amount of work which was devoted to the Housing Code and also to the endorsement which it has received from the Chapter, as well as from other organizations in the city.

"A new School ordinance has been passed, which allows two stories VI class building when there is no basement and when the first story is not more than one foot above grade.

"A fire gong ordinance was proposed, but is now being redrawn by the Fire Marshal as the Ordinance as proposed seemed to favor too much some special apparatus.

The two-story mill building in inner fire district ordinance was voted down by the commissioners, and later an ordinanee reducing the inner fire limits was passed by them.

"An ordinance allowing a marquise to extend 40 per cent of the street frontage of a building and not over 75 per cent of the frontage on any one street was passed by the Commissioners.

The Board of Appeal recommended that 3-story workshop or factory buildings be allowed of VI class construction instead of mill construction as heretofore required.

"An ordinance covering sprinkling of basements in the fire limits is under contemplation and is the subject of a special report from this committee presented separately."

I beg to submit herewith Report of the Building Laws Committee of the Chapter on the proposed Ordinance covering the sprinkling of basements of buildings in the fire limits:

The Basement Sprinkler Ordinance" provides that "All buildings except dwellings in the fire limits, two stories or more in height provided with a basement or cellar * * * for storage manufaeture or sale of articles or materials of an inflammable or combustible nature shall have such cellars and basements, including space under the side-walk, protected with a system of automatic sprinklers * * * supplied with water from the street water main.

Wherever there are over one hundred sprinkler heads in a system, a Siamese inlet shall be provided for an outside steamer connection. Where there are more than one hundred sprinkler heads in a system, there shall be provided an alarm valve so arranged and installed as to operate a mechanical alarm gong located on the outside of building.

Existing buildings, except fire proof buildings, class I, II, and III of the Building Code * * * shall be provided with a sprinkler system as herein specified within three years from and after the date of passage of this ordinance."

It is estimated by the Fire Department that about 10 per cent of all fires start in basements, but that these fires cause about 25 per cent of the total fire loss.

About 10 per cent of losses due to fires are actually caused by fire, the remaining 85 per cent being from smoke and water damage.

Basement fires are difficult of access and of great danger to firemen, besides causing great smoke danger to occupants of buildings.

Chief Stevens says that if the basement of the Alisky Bldg. had been sprinklered the damage in that fire would probably have been less than $1000 instead of $235,000 as reported in the papers.

In Portland last year the fire loss was approximately $1,800,000. A complete basement sprinkler equipment in Portland would cost $600,000 to $800,000 with a chance to save up to $450,000 a year in fire losses or a possible annual return of over 50 per cent on the investment, in addition to which the underwriters offer a tentative reduction of 5 to 10 per cent in premiums on buildings so equipped.

At this time, when insurance premiums in Portland are not covering fire losses, to say nothing of overhead expenses and profits and insurance companies are considering an increase of rates, is not this safeguard worth advocating?" Report approved.

Competition: Mr. Whitehouse reported that he felt that under the new code there was a much better chance of securing comptition on public buildings. Report approved.

Professional Practice: Mr. Lazarus brought up the possibility of new fee arrangement based on cost of draughting and overhead plus fee to architect for personal service. Report approved.

Legislation: No report.

Educational: Architectural League: Mr. Whitehouse went over work of Atelier and stated that in the competition held for prizes offered by Chapter to Atelier and the University of Oregon students in architecture, the University students made a good showing but that the Atelier work was not

satisfactory and no first prize was awarded the local body. Mr. Whitehouse suggested co-operation with the Washington Chapter to secure two or three times a year an exhibit of student work that the boys might see how their problems are handled by others. Report approved.

Quantity Survey: Hogue reported that no active work had been done recently. That the city had been well pleased with the partial use of the system of one of the city buildings, but that some of the contractors were not altogether satisfied. Report approved.

Quantity Survey: Holford reported on attemps to secure publication of articles, also called attention to Benson Memorial at Hood River on which Chapter was asked to advise, as a direct result of reprint by the Oregon Journal of an article from the Institute Journal.

Mr. Lazarus, chapter member national committee on publicity, reported an article which he had taken up with the local newspaper that had been done on advertising to secure uniform size of pamphlets, etc. The possibility of making contractors and supply houses appreciate the value of advertising in Journal.

Balloting on application for membership. A count of the ballots showed that Mr. Chas. C. Rich had been elected a member.

Annual address by President Doyle. Moved by Mr. Whitehouse, seconded by Mr. Hogue and carried that the President's address be placed on file and a copy sent to the Journal.

Secretary read a report covering membership condition. Moved by Mr. Hogue, seconded by Mr. Allen and carried that the Secretary's report be filed.

Treasurer, Mr. Fouilhoux, submitted report showing balance in bank and dues outstanding. President appointed Mr. Hogue and Mr. Beckwith to audit the treasurer's report and report back to Chapter.

Communications: Letter read from Builders Exchange thanking Chapter for services rendered through Mr. Fouilhoux in the work on Oregon Fir Committee.

Letter from Commissioner Dieck acknowledging notification of Mr. Whitney's resignation.

Letter from the Secretary of the Institute asking opinion of Chapter on advisability of discontinuing publication of Proceedings. Moved by Mr. Smith, seconded by Mr. Fouilhoux and carried that the Secretary be instructed to write the Secretary of the Institute that it is the opinion of the Chapter that the publication of the Proceedings be discontinued provided a resume of the resolutions adopted by the convention be published in the Journal.

Letter from Minnesota State Chapter telling of the Chapter's activity in establishing an Architectural and Allied Arts Service Department through co-operation with the Minnesota Art Commission. Moved by Mr. Lawrence, seconded by Mr. Beckwith and carried that the Secretary write the Minnesota Chapter congratulating them on their activity in establishing the Architectural and Allied Arts Service Department and in their model housing campaign.

New Business: Moved by Mr. Naramore, seconded by Mr. Fouilhoux and carried that the Secretary extend a vote of thanks to the men who furnished automobiles for the outing on the Columbia Highway.

Moved by Mr. Fouilhoux, seconded by Mr. Naramore and carried that President Doyle interview Mayor Albee and suggest that he appoint a member to represent the Chapter on the Building Code Revision Committee.

Moved by Mr. Lawrence, seconded by Mr. Allen and carried that the Municipal Plans and Affairs Committee take up the question of billboards along the Columbia Highway with the newspapers with the aim of creating public sentiment against this disfigurement of the beauties of the highway.

Moved by Mr. Lawrence, seconded by Mr. Smith and carried that the new president see that three members of the Chapter are appointed to represent the Chapter at the meeting of the Rose Festival Association to be held November 3, 1915 at the Chamber of Commerce.

Moved by Mr. Lawrence, seconded by Mr. Naramore and carried that Mr. Beckwith be appointed a special committee to assist in collecting subscriptions to the Journal from members in arrears.

Moved by Mr. Lawrence, seconded by Mr. Whitehouse and carried that the Education Committee endeavor to arrange with the University of Oregon Extension Bureau for a course of lectures on architecture and Allied Arts to be given at the Public Library.

Moved by Mr. Fouilhoux, seconded by Mr. Hogue and carried that the Chapter recommend the adoption of the proposed ordinance on the installation of sprinklers in basements as drafted by the Building Code Revision Committee.

There being no objection the President appointed Mr. Fouilhoux Chapter member of Oregon Fir Committee.

Mr. Lawrence read quotation from letter of Mr. Medary's stating that the 6 per cent rate is not mandatory in competition, the only requirement being that the rate shall be that established by good practice in the community.

Moved by Mr. Hogue, seconded by Mr. Lawrence and carried that the competition committee endeavor to secure competition for the selection of architects for the public schools and public buildings being built throughout the state and that they hold a competition to secure plans for typical school which may be of value to the committee in the smaller communities.

Moved by Mr. Lawrence, seconded by Mr. Lazarus and carried that the new Secretary in conjunction with the Executive Committee, prepare a letter to the County Commissioners along the lines of rough draft herewith submitted as read asking for a competition for the county buildings and offering to furnish assistance in preparing data and judging competition, letter to be signed by the Executive Committee and that the Publicity Committee give the letter to the papers at the proper time.

Mr. Lawrence read a proposed letter to Mayor Albee regarding architectural service on the fire station. Moved by Mr. Lawrence, seconded by Mr. Naramore and carried that the new Secretary and Executive Committee draft and send a letter to Mayor Albee asking consideration in the award of architectural commission for fire stations and that the letter be signed by Execuive Committee and given due publicity.

Moved by Mr. Lawrence, seconded by Mr. Lazarus and carried that:

Whereas: The question of nomination for the fellowship grade will probably be called for in the near future, and

Whereas, From the experience of past years the method adopted has not been satisfactory, be it

Resolved, First, That if the Chapter is requested to nominate for the fellowship, the matter will be passed upon as follows:

A letter ballot to be sent out by the Secretary within the next week calling for an expression of opinion as to whether or not the Chapter wishes to nominate anyone for the Fellowship. Accompanying this ballot to be a request that the member enclose a sealed envelope containing his single choice for the nomination (an Institute member by necessity) — these sealed envelopes to be opened by the Ex. Committee within two weeks providing that a majority of the ballots east indicate a desire to send in a nomination, in which case the member receiving the highest number of votes will be declared the Chapter's choice and the Secretary of the Institute be so notified, and be it

Resolved, That the President appoint a committee of three to draft an amendment to by-laws fully covering nominations for Fellowship, the same to be presented in accordance with the terms of the By-laws governing amendments.

Moved by Mr. Lawrence, seconded by Mr. Beckwith and carried that the Chapter elect three delegates to the annual convention. Ion Lewis, D. C. Lewis, E. F. Lawrence were then nominated. Moved by Hogue, seconded by Mr. Smith and carried that the nomination be closed and that the three nominees be declared elected, and that the secretary be instructed to notify the Secretary of the Institute of their election.

Moved by Mr. Lawrence, seconded by Mr. Allen and carried that the delegates be instructed to cast the vote of the Chapter for the following candidates, whose nomination has been endorsed by the 10 Institute members of the Chapter:

For President, Thomas R. Kimball. For First Vice-Pres., C. Grant LaFarge. For 2nd Vice-Pres., Milton B. Medary, Jr. For Secretary, Burt L. Fenner. For Treasurer, John Lawrence Mauran. For directors, Edwin H. Brown, Ben J. Lubschez and R. Clipston Sturgis.

Moved by Mr. Lawrence, seconded by Mr. Whitehouse and carried that the delegates be instructed to express to the convention by distribution of circulars, etc., the following opinions of the Oregon Chapter in regard to the reorganization of the Institute and other matters:

By-Laws—Members: 1st. That in Art. I, Sec. 1 and in Art. VII, Section 5, some more definite arrangement be incorporated providing a Junior membership, allowing the students, future Institute members to come closer in touch with Institute ideals and inspiration.

By-Laws, Art II, Sec. 1. 2nd. That the Fellowship grade should not necessarily be confined to a selection from a list submitted by the Chapters. Some Chapters might not wish to pass upon such a very important matter, thus avoiding internal strife and jealousies. It is conceivable that occasionally big men worthy of the fellowship might be deprived of it by pettiness of motives, if the nominations were obliged to emanate from the Chapters.

By-Laws, Art V, Sec. 3. Discipline: 3rd. That the author of charges or the source of the information on which charges

"Pacific" Kwy-eta Combination

The most silent combination made

"Pacific"

Plumbing Fixtures

Guaranteed for an unlimited period of years
against defects in material and manufacture

FACTORIES: RICHMOND, CALIFORNIA

DISPLAY ROOM: 67 NEW MONTGOMERY STREET SAN FRANCISCO

are preferred should be made public in the review of any case of discipline and should be stated in the notification to the accused.

By-Laws, Art. VIII. Delegates: 4th. That some more equitable method of representation be devised especially when votes are called for in election of officers and matters of policy, and in view of the great distances which separate Chapters some method to make a more fair distribution of costs of delegates' expenses, a pooling method for example, thus insuring the distant chapters of proper representation, which is secured only in the national government by allowing the Representatives their railroad fare, etc.

By-Laws, Art. XII, Sec. 1—Board of Directors' 5th. That a system be devised giving a larger number of Chapters representation on the Board.

6th. Rates: That the question of rates based on percentage of cost of work be eliminated from the Institute's Codes and Documents—the subject handled on a more professional basis—similar to the method adopted by President Sturgis in his own practice—recognizing that the present status of the proper minimum rate is based on a false promise initially weakening public regard for the Institute—lowering the self respect of the members, and causing extreme unfairness to clients, one being penalized for the other's lax business methods and lack of definiteness in his requirements.

Moved by Mr. Naramore, seconded by Mr. Fouilhoux and carried that the delegates be authorized to exercise their judgment in voting on the constitutional amendments to be presented at the convention.

Election of Officers: Mr. Doyle withdrew his name as nominee for President. Moved by Mr. Hogue, seconded by Mr. Smith that Holford be declared elected president. Mr. Beckwith and Mr. Allen appointed tellers. As result of balloting the following were elected: Vice-President, Chester J. Hogue; Secretary, Jos. Jacobberger; Treasurer, Andrae Fouilhoux.

Mr. Whitehouse withdrew his name as candidate for trustee. Moved by Lawrence, seconded by Mr. Smith and carried that the secretary be instructed to cast the unanimous vote of the chapter for A. E. Doyle and F. A. Naramore as Trustees.

Moved by Mr. Lawrence, seconded by Mr. Naramore and carried that the committee appointed to prepare amendment on Fellowship be further instructed to prepare an amendment covering method of nominating and electing officers whereby same can be done by letter ballot if possible.

Meeting adjourned.

Minutes of Washington Chapter, A. I. A.

Digest of minutes of October meeting, Washington Chapter, A. I. A., October 21, 1915.—The postponed meeting was held at the club house of the Seattle Architectural Club, 203 14th Avenue North, which, with its ample accommodations and attractive living room made the meeting one of the pleasantest of the year. It was decided to hold meetings there in the future. Twelve members were in attendance at the meeting.

A discussion as to the advisability of discontinuing the publication of the proceedings of the annual convention of the Institute resulted in a motion to the effect that the proceedings constituted a valuable historical record of interest to each member of the Institute, especially to those who are unable to attend the conventions, and that the Chapter deprecated the suggested change in printing a digest of the proceedings in the Journal.

Renewed attempts to secure the passage of a State Licensing Law were decided upon, active efforts to be started after the annual meeting.

Mr. Willcox entertained the members with a brief account of the doings of the Executive Committee at San Francisco, and an interested characterization of the architecture of the Fair, which latter provoked a lively discussion as to the effects and trend of present day architecture which continued after the meeting adjourned.—Arthur L. Loveless, secretary.

VISITING ARCHITECTS STIMULATE CHAPTER UNITY

Continued from Page 208

of the Institute, all architects, students of architecture, and architectural draughtsmen, were invited to be present. The meeting was called to order by Mr. Faville, President of the San Francisco Chapter, who introduced Mr. R. Clipston Sturgis, the President of the Institute, who explained the aims of the Institute in its relation to the profession of architecture and what it is endeavoring to accomplish. The meeting was also addressed by Mr. Mauran and Mr. Fenner. The attendance was 180.

On Saturday morning, October 9th the meeting of the San Francisco Chapter was held in the Rose room of the Hotel St. Francis for the purpose of discussing the new Constitution and By-Laws and the reorganization of the Institute. Mr. Faville presided and the officials of the Institute were present. After a general discussion of the new Constitution and By-Laws, participated in by the Institute Officials and Chapter Members, on motion duly made, seconded and carried, the Chapter endorsed in spirit the proposed changes in the Constitution and By-Laws. The meeting was followed by a luncheon numerously attended by Chapter members and the Institute party.

On Monday, October 11th, the party was tendered an automobile ride by the Chapter, to the various points of interest around the city, after which luncheon was had at the Cliff House. Leaving the Cliff House the party was taken to the Exposition, where at 3:30, in the Court of the Universe a commemorative parchment was presented to the American Institute of Architects by the Exposition Company. The presentation address was made by Mr. Will Crocker for the Exposition Company and was received by Mr. Sturgis for the Institute. The remarks of both Mr. Crocker and Mr. Sturgis were eminently suited to the occasion and were listened to by quite a gathering of the Architects and their friends.

The party left on Tuesday morning for Del Monte and Santa Barbara and Los Angeles.

The visit of the Institute officials did much to stimulate the affairs of the Institute and the Chapter in San Francisco and was the means of creating a unity of sentiment toward the Institute and its work which augurs well for the future.

ARCHITECTURAL TREATMENT OF A MODERN STORE

Continued from Page 225

mail order department, telephone exchanges and executives' offices. The center section is occupied by the fitting department and an auditorium seating 250 for lectures in the store school for instructing employees in merchandising methods. The west end is occupied entirely by work rooms.

All packages for special delivery are handled by dumb waiters, the appearance of a package on the dumb waiter indicating in itself its requirement of instant service.

Fire protection equipment is complete, from sprinklers to Pyrene extinguishers, while the store has its own alarm gongs, and connection with gongs at the fire department. An auxiliary fire alarm is spotted all over the store, there is watchman's clock protection all over

Continued on Page 238

ST. MARY'S COLLEGE
Portland, Ore.

Built in 1887--Roofed with "Target-and-Arrow" Roofing Tin

When the question arises: "What shall be the roof covering for a College Building?" the Architect wants established facts before him when making the selection. The value of "TARGET AND ARROW" Roofing Tin has been demonstrated by the test of time, the only sure test. A roof of "TARGET AND ARROW" Tin lasting from 50 to 75 years is a common occurrence.

Our Catalogue is in Sweet's. Full information, including standard specifications for tin-roofing work, tables of covering capacity, weight, etc., will be sent upon request.

Stocks carried at San Francisco, Los Angeles, Seattle and Portland

Sold Through All Leading Jobbers on the Pacific Coast and Direct from Warehouse Stock

IC
TARGET-ARROW
REGISTERED
TRADE MARK
N.&G.TAYLOR CO.
PHILADELPHIA

N. & G. TAYLOR CO.

Sole Manufacturers

Established in Philadelphia in 1810

J. A. DRUMMOND

Pacific Coast Representativs

725 Chronicle Bldg., San Francisco

Morsehead Apartments

San Francisco, Cal.

HOUGHTON SAWYER
Architect

Floors of this Building

Constructed with

Meyer System

of Steelforms

CONCRETE ENGINEERING COMPANY

Rialto Building San Francisco, Cal.

MR. PACIFIC COAST ARCHITECT

THE LAMSON COMPANY
Boston, U. S. A.

Have their latest type Pneumatic Tube service in the following important stores on the Pacific Coast:

BULLOCK'S INC., Los Angeles, Cal.
J. W. ROBINSON COMPANY, Los Angeles, Cal.
MEIER & FRANK COMPANY, Portland, Oregon.
A. HAMBURGER'S SONS, Los Angeles, Cal.
HALE BROS., INC., San Francisco, Cal.
THE WHITE HOUSE, San Francisco, Cal.
BROADWAY DEPARTMENT STORE, Los Angeles, Cal.

There are many others, but numbered in the above are some Pneumatic Tube Conveyor systems of the most modern type for handling cash and parcels in the up to date Department Store. This includes our famous monitor system—the first ever installed on the Pacific Coast.

Call on one of our Pacific Coast representatives and he will take you to see one of these systems in operation.

OUR DEVICES AWARDED GOLD MEDAL AT THE P. P. I. E.

The Lamson Company

PACIFIC COAST REPRESENTATIVES

H. R. FURNAS,
Selling Agent
627 S. Broadway, Los Angeles

A. W. PEABODY,
Department Selling Agent
617 Mission St., San Francisco

J. G. BROOME,
Selling Agent
215 Stewart Street, Seattle, Wash.

Caldalite
SHOWCASE REFLECTOR

"INTENSIVE ADVERTISING"

Efficient Metallic Reflectors for Special Conditions Showcases, Show Windows, Display Cases, Bank Screens Indirect Cove, Art Galleries, Pulpit, Residence, Stage

DESCRIPTION

The CALDALITE is a soft brown color, 1⅞ inches wide, extending the full length of showcase at front upper angle. Brilliant illumination is secured with either a long or short tubular Tungsten lamp. The current is supplied through small metal tubes from the back of case. There may be from one to six cases on each circuit. It is easily applied without screws or standards to any style showcase and is especially adapted for the all-plate type.

Installations — Los Angeles—Bullock's, Hamburger's, Ville de Paris, Bank of Italy.

THE CALDALITE COOMPANY
R. H. HESS, MANAGER
Phones, Bdwy. 1207—Holly. 2867
416 San Fernando Bldg. Los Angeles

"Bay State" has stood the test of 16 years

Architects east and west have tested and proved the merits of Bay State Brick and Cement Coating as a *permanent protection* against rain, snow and all kinds of weather. This coating prevents the spots, blotches and hair-cracks shown in the picture to the left.

Bay State
Brick and Cement
Coating

waterproofs concrete, stucco or plain cement, but doesn't lose the distinctive cement texture, as shown on the house to the right. It comes in white and in beautiful tints, giving the architect a wide range of artistic effects. It adds a new decorative value to the economy and durability of concrete.

Try it—we'll send you a sample can free. When you write, specify tint desired. Ask for booklet 7, too.

WADSWORTH, HOWLAND & CO., Inc.
Paint and Varnish Makers Boston, Mass.

Distributing Agents:
James Hambly & Sons, San Francisco, and Los Angeles; J. B. Winstanley Co., Portland; F. T. Crowe & Co., Seattle, Tacoma, Spokane; Jones-Moore Paint House, San Diego

Draughtsmen's Blouses

A specially designed studio and office robe, made of well-wearing material, washable, of a serviceable buff shade, offering a complete protection of clothes from wear and tear. Sent to any address, prepaid upon receipt of price.

Style A
$1.50

E. Falkenhainer
25 West 42nd Street
NEW YORK CITY

Style B
$2.00

Special discounts in lots of one dozen or more

Two

Gold Medals awarded Fess System Company on Crude Oil Burners, one for mechanically atomizing burners for low pressure Heating Boilers and Hot Air Furnaces, one for Range Burners.

See Burners in operation—5th Avenue and E, Machinery Palace

Office, Factory and Demonstrating room, 220 Natoma Street

Call or write us for prices

Fess System Co.

Mt. Diablo Cement

Always Used Where Quality Counts

COWELL SANTA CRUZ LIME

Henry Cowell Lime & Cement Co.
2 Market Street, San Francisco

BRANCHES:
Oakland Sacramento San Jose Santa Cruz
Portland, Oregon Tacoma, Wash.

ARCHITECTURAL TREATMENT OF A MODERN STORE
Continued from Page 234

the building, and an ample supply of inside and outside fire lines. Among structural features which may be especially mentioned are that each floor and the roof of the building is 150 lb. floor designed to carry the regular warehouse load, the roof, for this purpose, being considered as a floor. The specifications provided that all columns, beams, and girders must be furnished exactly as designed and the contractor must build his own forms exactly to this design.

DEVELOPMENT IN THE DESIGN OF CONCRETE FLOOR SLABS
Continued from Page 229

433 Rialto Building, San Francisco, and will be glad to give architects, engineers and prospective builders complete information regarding Meyer Steelforms. In addition to the Meyer Steelforms for floor construction, this company will soon place upon the market an adjustable metal column form and also a metal form for beams and girders, both of which have already been given hearty approval by large Eastern Contractors.

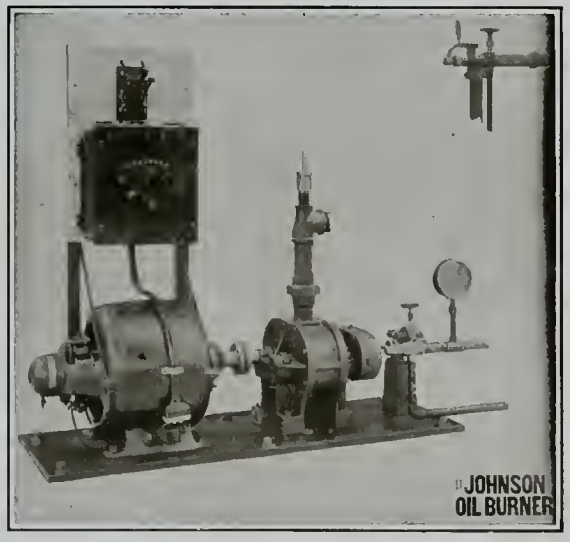
Statement of the ownership, management, circulation, etc., required by the act of August 24, 1912, of The Architect, published at San Francisco, Cal., for Oct. 1, 1915. Editor, Clarence P. Kane, 725 Chronicle Building, San Francisco, Cal.; Business Manager, J. A. Drummond, 725 Chronicle Bldg., San Francisco, Cal.; Publisher, J. A. Drummond, 725 Chronicle Building, San Francisco, Cal. Owners: (If a corporation, give its name and the names and addresses of individuals holding 1 per cent or more of total amount of stock. If not a corporation, give names and addresses of individual owners.) J. A. Drummond, 725 Chronicle Bldg., San Francisco.; Known bondholders, mortgagees, and other security holders, holding 1 per cent or more of total amount of bonds, mortgages, or other securities: (If there are none, so state.) None. J. A. Drummond, Publisher. Sworn to and subscribed before me this 24th day of September, 1915. W. W. Healey, Notary public in and for the City and and County of San Francisco, State of California. My commission expires August 28, 1917.

Best Plaster for
ALL CLASSES OF
BUILDINGS

FIREMEN'S FUND INSURANCE BUILDING,
San Francisco
Lewis P. Hobart, Architect

KEENE CEMENT GAUGED
For Scratch Coat LIME MORTAR For Brown Coat
NON-CORROSIVE —— SOUND PROOF
Costs Less than Hardwall
American Keene Cement Co.
MANUFACTURERS
"STRONGEST KEENE CEMENT KNOWN"
SOLD BY JOBBERS

Low Pressure Crude Oil Burning Equipment
Not how Cheap--but how Serviceable



WILL LAST A LIFETIME—RUNS SLOW

WAR DEPARTMENT
OFFICE CONSTRUCTING QUARTERMASTER,
UNITED STATES ARMY
Fort Mason, San Francisco, Cal.,
Nov. 28, 1914.

S. T. Johnson Co.,
San Francisco, Cal.—

Gentlemen: Referring to your inquiry about the Oil Burning System installed by you at Fort Baker some time ago under this office, I wish to say that this low pressure air burning system has given entire satisfaction. This central system, with its air and oil mains to each building, is very simple and there are no parts to get out of order, if once put in right A saving of about 70 per cent over price of coal has been made by this change, and the plant will soon pay for itself.

Respectfully,
O. W. Degen,
Civil Engineer & Spt. of Const.

The United States Government has 132 Johnson Burners in Daily Use

Some Oil Burner Manufacturers install outfits that operate at speeds at high as 3,400 R. P. M., and if they are worn out as soon as the makers' guarantee expires, "It's up to you." Why have high speed machinery? Johnson systems give long satisfaction.

1337 Mission St.
SAN FRANCISCO

S. T. JOHNSON CO.

AGENTS IN PRINCIPAL
PACIFIC COAST CITIES

OAKLAND RESIDENCE

BAKEWELL & BROWN
Architects, San Francisco

W. T. WHITE CO.
Builders, Oakland

Equipped With

PITCHER

Disappearing Doors
Adjustable Hangers

AND

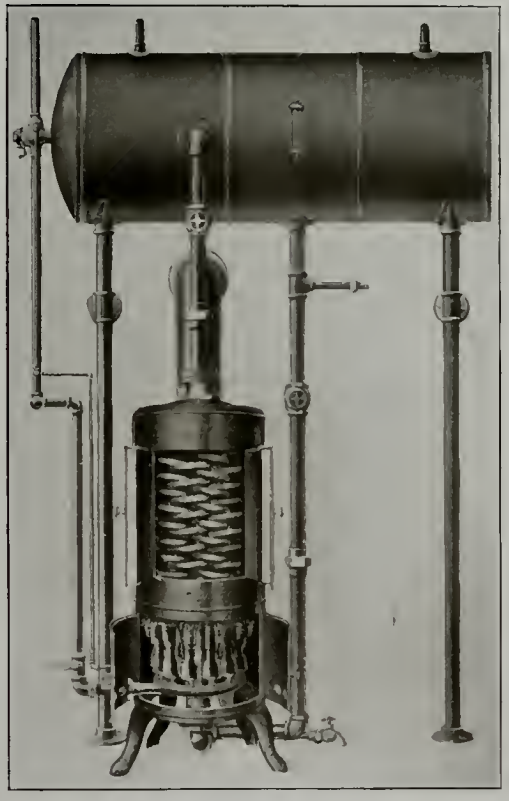
PATENTED FRAMES

Pitcher Disappearing Doors installed in 5½ inch partitions. No extra thickness of wall required. Specify Sliding Doors in place of Swinging Doors.

WRITE FOR PARTICULARS

NATIONAL MILL & LUMBER CO.

FIFTH AND BRYANT STS. **SAN FRANCISCO, CAL.**



Hoffman Automatic Hot Water Storage System with Multi Coil Gas Heater

The latest improved hot-water storage system especially designed for large Residences with from four to ten Baths, or Large Apartment Houses containing from six to twenty suites.

The Most Efficient and Economical by Test

OPERATES AUTOMATICALLY—Provides Instant hot water at all Hot Water Fixtures—Maintains uniform temperature of 150 degrees.

The Hoffman Heater Co.

LORAIN, OHIO

Pacific Coast Branch
397 Sutter Street, San Francisco
Phone Kearny 4325
Oakland Office, 533 13th Street
Phone Oakland 2481
Los Angeles Office 636 So. Hill Street
Beacon Light Co.

Ambler "Century" Asbestos Shingles

MODERS NURERS' HOME
Portland, Oregon

JOSEPH JACOBBERGER
Architect

ROOFED FRENCH OR DIAGONAL METHOD WITH

Ambler "Century" Asbestos Shingles

Buildings covered with AMBLER Asbestos will not catch fire from flying brands nor from the radiation of burning buildings nearby. Supplied in three colors—Newport Grey, Indian Red and Slate, it makes possible attractive designs, and it can also be painted, enameled, varnished, ingrained, etc., as desired for decorative effects.

AMBLER Asbestos is a solid, homogenous material that is not affected by light, heat or moisture. There is nothing to separate, peel or wash off, or to chip and crack, exposing other perishable material.

High grade Portland Cement becomes more tough and resistant the older it is, hence AMBLER Asbestos coverings exposed to the weather have practically unlimited life. In fact, it has been truly said that AMBLER Asbestos Roofing is permanent as the everlasting hills. AMBLER ASBESTOS CORRUGATED SHEATHING is superior to corrugated iron for Factory and otherpermanent building construction, being fastened dire ctly to the wood or metal purlins.

Sold by the

Keasbey & Mattison Co.

Manufactured by the
Asbestos Shingle, Slate & Sheathing Co.
Ambler, Penna., U. S. A.

J. A. DRUMMOND

Pacific Coaet Repreeentative
725 Chronicle Bldg., San Francisco.
Stock Carried in San Francisco.

PACIFIC COAST DEALERS

SAN FRANCISCO, CAL.
Plant Rubber & Supply Co.
Western Asbestos Magnesia Co.

SACRAMENTO, CAL.
Miller-Enwright Co.

LOS ANGELES, CAL.
California Cornice Works
Waterhouse & Price Co.
Howe Brothers

PHOENIX, ARIZ.
Arizona Hardware Supply Co.

SEATTLE, TACOMA, SPOKANE, WASH.
F. T. Crowe & Co.

PORTLAND, ORE.
Gillen-Chambers Co.

FRESNO, CAL.
Kutner-Goldstein Co.

THE ARCHITECT

VOLUME X · NUMBER 6 ·
· DECEMBER · 1915 ·

For Waterproofing Concrete

The fact that ARMORITE is rated 100 per cent efficient by the State Engineering Department in competitive test of waterproofing compounds for concrete is only one evidence of its worth. As a damp-resisting paint on the inside of walls above or below ground, it positively prevents moisture coming through, and its use will insure a hermetically sealed surface impervious to water, acids or alkalies.

CONCRETA is equally as efficient as ARMORITE, but is formulated for an exterior damp-proof coating for stucco, concrete or brick. By capillary attraction CONCRETA is carried into the voids of the concrete and produces in any one of twelve different colors a uniform velvety coating, which is waterproof and exceedingly durable.

MANUFACTURED BY

W. P. Fuller & Co.

SPECIALIZED PAINT AND VARNISH PRODUCTS FOR EVERY PURPOSE.

MUEHLBACH HOTEL, KANSAS CITY, MO.

Finished with

BERRY BROTHERS' LUXEBERRY WHITE ENAMEL

HOLABIRD & ROCHE, ARCHITECTS, CHICAGO, ILL.

LUXEBERRY WHITE ENAMEL

WHITEST WHITE—STAYS WHITE

Gives a rich snow white finish in either dull or gloss effects. It appeals to people who want something better than the ordinary white interior at no higher cost. Luxeberry White Enamel is sanitary, washable, and will not crack or chip.

Let us send you a finished sample of Luxeberry.

BERRY BROTHERS
(INCORPORATED)
World's Largest Varnish Makers

Factories: Detroit, Mich.; Walkerville, Ont.; San Francisco, Cal.
Branches in principal cities of the world.

DETROIT SAN FRANCISCO WALKERVILLE, ONT.

REFINISHED WITH CONCRETO

H. MAUNDRELL
Painter
San Francisco

THE DAVIS SHONWASSER BLDG.
Sutter and Grant Ave.
SAN FRANCISCO

MacDONALD & APPLEGARTH
Architects
San Francisco

Refinished with Two Coats

THE MURALO COMPANY
CEMENT
CONCRETO
COATING
NEW BRIGHTON, N.Y.

Over Another Material

We Will be pleased to submit to interested architects, a list of local buildings finished with Concreto since 1909.

Sole Makers **THE MURALO CO.,** New York

San Francisco Office: 311 CALIFORNIA STREET
A. L. GREENE, Agent

LOS ANGELES
SUNSET PAINT CO.
627 S. Main Street

DISTRIBUTORS

SAN FRANCISCO
D. H. RHODES
546 Valencia Street

FINISHED WITH Kyanize KY-AN-IZE

WILTON BROS.,
Contractors
Pomona, Cal.

POMONA VALLEY HOSPITAL
Pomona, California

PAUL F. HIGGS
Architect
Pomona, Cal.

Finished throughout with

Kyanize KY-AN-IZE WHITE ENAMEL

THE HIGHEST GRADE OF ENAMEL MADE

Boston Varnish Company, Boston, U. S. A.

San Francisco Office and Warehouse, 311 California Street
A. L. GREENE, Agent

Seattle	Tacoma	Portland	San Francisco	Los Angeles
CAMPBELL HDWE. CO.	**W. J. HANSON CO.**	**W. M. SMITH CO.**	**D. H. RHODES**	**SUNSET PAINT CO.**
Coleman Dock	1129 Broadway	550 Williams Ave.	546 Valencia Street	627 South Main St.

ROBINSON BUILDING
Los Angeles

NOONAN & RICHARDS
Architects and Engineers

The 265,000 face brick used in this building are enameled in a mottled gray and were manufactured by

Pacific Sewer Pipe Company

Los Angeles, Cal.

Plant No. 4
306 AVENUE 26, LOS ANGELES

Main Office
825 EAST SEVENTH STREET

Residence
LEO H. LONG
Steilacoom Lake, Wash.

Roofer
EDWARD MILLER CORNICE AND ROOFING CO.
Tacoma, Wash.

Architect
I. JAY KNAPP
Los Angeles, Cal.

THIS is not a Shinto temple from the Island Empire of Japan, but an original idea for a Summer cottage among the pines of Washington. We show it as an excellent example of the well-known adaptability of tin roofing to irregular curved surfaces. The tin roofing not only carries out the architectural effect perfectly, but also provides an exceedingly durable and fireproof roofing. It can also be painted to harmonize with the color scheme of the building.

The architect has carried out the Oriental design faithfully, even to the chimney.

The question arose about the original specifications on this residence, and to verify the fact that "TARGET AND ARROW" Roofing Tin was used on this job, the following letter is reproduced:

"Mr. J. A. Drummond,
San Francisco, Cal.

Tacoma, Wash., Jan. 8, 1914.

Dear Sir:

In reply to yours of the 5th inst. will state that there was a —oid roof on Mr. Long's residence, with 3 inch half round rolls over the seams, but the roof leaked like a sieve, and we put a "TARGET AND ARROW" Brand Tin Roofing over the —oid. We used the 14x20 inch Standing Seam Roofing, just as we told you at the time the work was done.

Very truly yours,
EDWARD MILLER CORNICE & ROOFING CO.,
(Signed) E. Miller, President."

STOCK CARRIED AT SAN FRANCISCO, LOS ANGELES, PORTLAND AND SEATTLE

N. & G. TAYLOR CO.

Sole Manufacturers

Established in Philadelphia in 1810

J. A. DRUMMOND

Pacific Coast Representative

725 Chronicle Bldg., San Francisco

ROBINSON BUILDING
Los Angeles

NOONAN & RICHARDS
Architects and Engineers

The 265,000 face brick used in this building are enameled in a mottled gray and were manufactured by

Pacific Sewer Pipe Company

Los Angeles, Cal.

Plant No. 4
306 AVENUE 26, LOS ANGELES

Main Office
825 EAST SEVENTH STREET

Residence
LEO H. LONG
Steilacoom Lake, Wash.

Roofer
EDWARD MILLER CORNICE AND ROOFING CO.
Tacoma, Wash.

Architect
I. JAY KNAPP
Los Angeles, Cal.

THIS is not a Shinto temple from the Island Empire of Japan, but an original idea for a Summer cottage among the pines of Washington. We show it as an excellent example of the well-known adaptability of tin roofing to irregular curved surfaces. The tin roofing not only carries out the architectural effect perfectly, but also provides an exceedingly durable and fireproof roofing. It can also be painted to harmonize with the color scheme of the building.

The architect has carried out the Oriental design faithfully, even to the chimney.

The question arose about the original specifications on this residence, and to verify the fact that "TARGET AND ARROW" Roofing Tin was used on this job, the following letter is reproduced:

"Mr. J. A. Drummond,
San Francisco, Cal.

Tacoma, Wash., Jan. 8, 1914.

Dear Sir:

In reply to yours of the 5th inst. will state that there was a —oid roof on Mr. Long's residence, with 3 inch half round rolls over the seams, but the roof leaked like a sieve, and we put a "TARGET AND ARROW" Brand Tin Roofing over the —oid. We used the 14x20 inch Standing Seam Roofing, just as we told you at the time the work was done.

Very truly yours,
EDWARD MILLER CORNICE & ROOFING CO.,
(Signed) E. Miller, President."

STOCK CARRIED AT SAN FRANCISCO, LOS ANGELES, PORTLAND AND SEATTLE

N. & G. TAYLOR CO.

Sole Manufacturers

Established in Philadelphia in 1810

J. A. DRUMMOND

Pacific Coast Representative

725 Chronicle Bldg., San Francisco

LEE C. PITZER RESIDENCE
Pomona, Cal.

ROBERT H. ORR, ARCHITECT
Los Angeles, Cal.

ROOFED WITH

No. 2 Mission Roofing Tile

Los Angeles Pressed Brick Co.
402-14 Frost Bldg., Los Angeles, Cal.

United Materials Company
5 Crossley Bldg., San Francisco, Cal.
DISTRIBUTORS FOR NORTHERN CALIFORNIA

F. B. BILLINGS RESIDENCE
Fresno, Cal.

W. H. ACKERMAN
Contractor

M. H. FISHER, ARCHITECT
Los Angeles,

This high-class, artistic shingle and cement plastered bungalow painted with

L. & S. Cement Paint

—The Paint that made the color scheme of the Panama-Pacific International Exposition famous—Is applicable to all surfaces—Made in all colors—

MANUFACTURED BY

Paint Products Corporation

LAIRD & SINCLAIR, Distributors

SHARON BUILDING **SAN FRANCISCO, CAL.**

CHANCELLOR HOTEL
Powell St. between Post and Sutter Sts.
San Francisco

ROSSEAU & ROSSEAU
Architects
San Francisco

Architectural Terra Cotta of

WHITE MATT GLAZE

BY

Steiger Terra Cotta and Pottery Works

FACTORY—South San Francisco, Cal.
OFFICES—729 Mills Building, San Francisco.

MEIER & FRANK BUILDING
Portland, Oregon

DOYLE & PATTERSON
Architects

WHITE MATT ENAMEL
ARCHITECTURAL TERRA COTTA

MANUFACTURED BY

GLADDING, McBEAN & CO.

OFFICES CROCKER BUILDING
San Francisco

TRUST & SAVINGS BUILDING
Los Angeles

FACTORY
Lincoln, California

RESIDENCE OF G. M. PERINE
San Francisco

C. A. MEUSSDORFER
Architect

STANDARD CREAM ARCHITECTURAL TERRA COTTA

MANUFACTURED BY

N. CLARK & SONS

OFFICE: 112-116 Natoma Street
SAN FRANCISCO

FACTORY: WEST ALAMEDA
CALIFORNIA

THE ARCHITECT

VOL. X. DECEMBER, 1915 NUMBER 6

Impressions of Some Bungalows and Gardens.

BY CHARLES SUMNER GREENE
OF GREENE & GREENE, ARCHITECTS, PASADENA, CAL.

IN THE year Nineteen Hundred, Southern California had scarcely awakened architecturally to the possibilities offered by its climate and topography. The natural beauties of its hills and valleys, its mountains and dry rocks, its rugged live oaks and chaparral, its flowers, its weeds, its brown earth and sandy washes, had all been described by the author of Ramona and her contemporaries. It made good reading. It awakened the interest of the tourist; but the architects of domestic work had already learned their lesson at school or in the office. In either case it mattered not, so far as the result of their efforts went; the product was nondescript. Some time before this, people had begun to prattle about the Missions and we were invaded by a grotesque, but it faded away. A successful interpretation of this Spanish-American style has not yet been practiced to any extent, and the chances of its advent grows, every day, less. The influx of people from the East brings its own traditions and obliterates the impression left by the fast disappearing landmarks of the other race.

Sixteen years seems a very brief space of time when one thinks of the building of Rome, but in these sixteen years, the growth of California has been phenomenal, almost unbelievable. Our Rome has not been built yet, it is true, but we have covered the ground. Beneath all this haste of speculation and the sordidness of commercialism, there is an impulse of wholesome enthusiasm born with the sight of the soil and sun of this wonderful land. One is forced to believe that this will continue and that in the end, it must triumph over exotic tradition and produce a style of architecture best suited to its own endless possibilities. The sedate and mellow sceptic may aptly but not elegantly term it "hot air," but we live in a sun-warmed ether near the blush of roses and we know it. With such a leaven in the blood, we may not be expected to be quite rational, but the realization of one thing has come to us, that life in California may be appropriately different from that in Kamchatka, or Kokomo, Indiana, or even Boston, where they are always just right, or New York, where they are never surprised at anything, or Chicago, where they are quite content. Most of us are well acquainted with the three last named cities, and we have a very sincere respect for them. We would like to have them think well of us and say pleasant things. But we can't prevent the rest of us from baiting the suckers and building bungalows. Building bungalows is not a crime in itself; it is the quality of the product that may justify the practice or condemn it.

ENTRANCE OF CALIFORNIA BUNGALOW

COURT OF CALIFORNIA BUNGALOW SHOWN ON PRECEDING PAGE

The term bungalow has been stretched to include almost everything in domestic building that is not strictly of Renascence or Colonial origin. It has been the catch word of promotionists and the headline of building company advertisement. To the popular mind, it suggests something new and is perhaps more closely associated with California than elsewhere. The East Indian origin of the term is apparently forgotten and its arbitrary application to things Californian finds excuse as easily as living in an automobile. In fact, between the automobile mania and the bungalow bias, there seems to be a psychic affinity. The spirit that animates the one makes the other possible. They have developed side by side at the same time and they seem to be the expression of the same need or desire, to be free from the commonplace of convention. It is the growth of the germ of California's incentive, the mere joy of living, newly discovered. At the height of their enthusiasm, the people remind one of children from the country, entering a top shop on Fifth Avenue. They come out with their arms full and are not yet surfeited. Never was the opportunity greater for the tyro or the architectural prestidigitator. Everybody is willing, even anxious, to try anything; they all have an idea and want to help. But in spite of all this, there has been good work done. The trained artist never quite loses his head; the best of traditions must always remain, and a new land cannot make a new people very quickly as time goes. So in the jostle we find new interest and a better understanding of the old, side by side with the new, that never forgot the old.

The perfect bungalow should be designed to fit the needs of a particular owner. A house built to sell is like to a stop-shop coat; it will cover most any man's back but a gentleman's, unless misfortune preclude a choice. To be true to the principle of all successful building, the bungalow architect must study carefully the practical conditions of the problem, and the personality of the owner forms one of the most difficult and at the same time most interesting parts of it. Many owners do not fully realize this duty of the architect and do not give him time enough to fully master these preliminaries. They demand pictures and drawings; they want to see something done when, in fact, nothing should be put upon paper for them to see at the time. It is easy to make pictures, and many of us fall into the habit. Of course, we know that pictures do not truthfully represent finished work, but we have reason to forget it. It is well for the conscientious architect to remember that once the design of a bungalow is fixed by means of a picture, it is very hard to change it. Properly no perspective for the owner of a bungalow should be made till after the plans are ready for bids; otherwise many a valuable opportunity may be lost to the betterment of the work. Besides, one should work in the spirit of real adventure. If the problem be solved at the outset, what interest can one be expected to take. The task is irksome. One must become peevish of the contest to twist refractory conditions to meet the exigencies of the design. A precious bit of pulp for the waste basket, so far as the real success of the building is concerned.

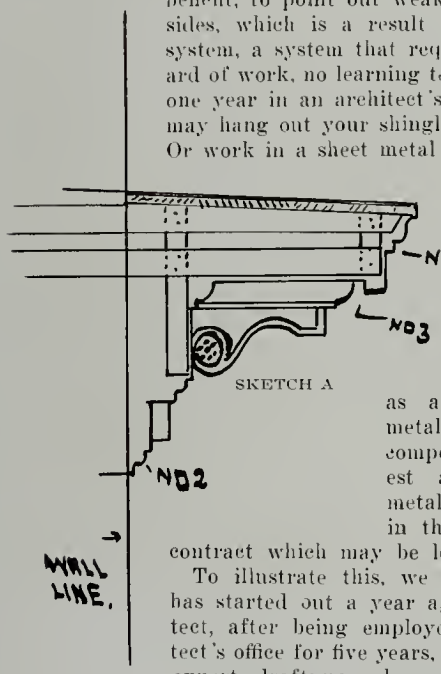
By far too many bungalows, as well as more pretentious buildings, evince the blight of picture-making. If

Continued on Page 278

More Definite Specifications for Workmanship and Material in Architectural Sheet Metal Work.

By J. P. HARNER

IN SELECTING this subject, I do not want to intimate that I am criticising all architects' work, or all sheet metal workers' methods, but am writing for our mutual benefit, to point out weaknesses on both sides, which is a result of our present system, a system that requires no standard of work, no learning to attain. Work one year in an architect's office and you may hang out your shingle, "Architect." Or work in a sheet metal working establishment the same length of time, and you may be fortunate to buy a good set of tools and start out as a master sheet metal worker, and compete with the oldest and strongest metal working firms in the land on any contract which may be let.



SKETCH A

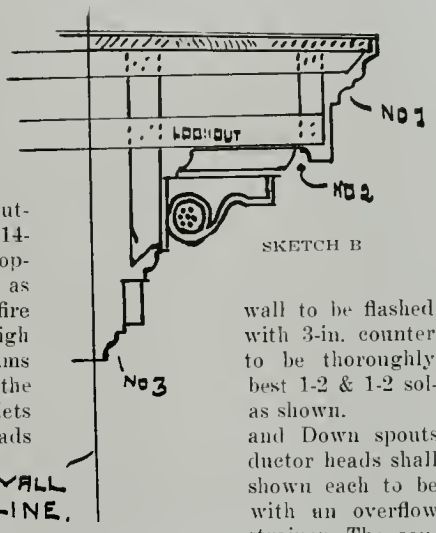
To illustrate this, we assume that A has started out a year ago as an architect, after being employed in an architect's office for five years, and is really an expert draftsman, has a well-equipped office and to the public is as he appears to be—an architect. He hears, we will say, that the Methodists are planning to erect a large church in a neighboring town, and to get as many architects interested as possible, conclude to let the plans by competition. After finding their wants, A submits a well executed and rendered drawing, set in a handsome frame, and wins solely by clever draftsmanship. The blueprints are made and specifications drawn, but brief. There being a large amount of sheet metal work on this building, I will deal with this part only, and touch on the other work only when it is necessary to do so. We will first look at the specifications.

Specifications for Sheet Metal Work

Cornice—The cornice shall be made strictly according to the plans and cross sections shown by the blueprints, and shall be of No. 26 gauge galvanized crimped iron, and to be painted on back with the best red oxide paint before putting in place.

Dome—The dome shall be covered with a raised rib roof as shown by the plans and cross sections, with a plain cornice at top and finished with skylight as shown. The roof shall be of No. 26 gauge galvanized iron and painted on the lower side before placing in position.

Skylight—The skylight on the dome shall be made in the most substantial manner, the bars to have condensation troughs on the sides to convey any condensation to the curb, where holes shall be provided for outlets, to be glazed with ¼-in. wired glass, well set in putty.



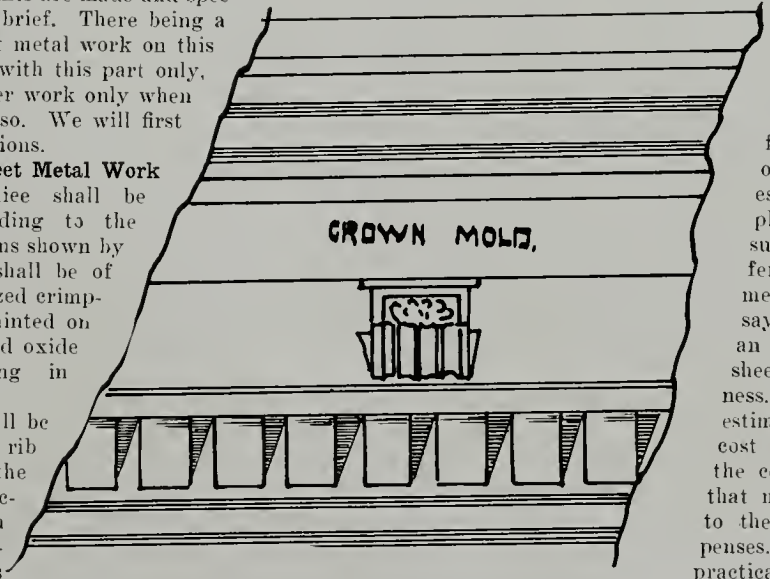
SKETCH B

Gutter—All gutter shall be of 14-oz. soft rolled copper and placed as shown. All fire wall to be flashed at least 6 in. high with 3-in. counter flashing. All seams to be thoroughly sweated with the best 1-2 & 1-2 solder place outlets as shown.

Conductor heads and Down spouts — The conductor heads shall be made as shown each to be provided with an overflow and wire strainer. The conductor or down spouts shall be round corrugated in plan and secured to wall with a malleable iron hanger every five feet. Down spouts to connect with cast iron connections at grade line.

The above specifications are not copied but are almost word for word like a set the writer had to follow some time ago.

We will say there is some 400 feet of main cornice including the miters also to have brackets and dentils, and about 25 squares of ribbed roofing, with a skylight 15 feet square on the dome. Six hundred lbs. of copper in the gutter and 150 ft. conductor pipe with 5 conductor heads. Now a contract of this magnitude will attract the sheet metal contractors from far and near, to bid on it as it goes to the lowest responsible bid. The plans we will say are submitted to a dozen different firms doing a sheet metal business, (and let me say here that estimating is an expensive part of the sheet metal worker's business. To make comprehensive estimates on a $5000 job will cost from $10 to $15 and if the contract is lost it means that much more to be added to the year's overhead expenses.) Now here is "B" a practical mechanic, but with a



Sketches by J. P. Harner, not drawn to scale.

Continued on Page 277

INFORMAL PLANTING
No architectural features appear; horticultural interest is dominant.

Ornamental Shrubs and Their Landscape Value.

BY R. T. STEVENS
ASSISTANT PROFESSOR OF LANDSCAPE GARDENING, UNIVERSITY OF CALIFORNIA

SUCH woody plants as produce an interesting and permanent effect and do not become large and tree-like may be called Ornamental Shrubs. In California, shrubs form a large part of the plant material used in Landscape Gardening. They are especially suitable material with which to landscape large areas in a dry, semi-arid climate, while many of the more choice and refined varieties lend themselves admirably to an artistic development of small home grounds. In some instances they supplement the use of trees, providing a certain finish to tree plantations which can not otherwise be obtained, while in others they strengthen the effect produced by herbaceous plants, and oftentimes can even be substituted for many of those plants commonly called garden flowers. It must not be understood from this that the best effects are obtained by the total absence of herbaceous flowers, but that the foundation or skeleton of the garden planting can well consist of permanent woody plants, between and in front of which, if desired, may be grown a restricted number of annuals and perennials to heighten and intensify the general effect. Shrubs supply greater heights and a more varied skyline to a small garden, and consequently produce greater variety and interest. A certain added interest is furnished by the apparently increased depth of a flower border when shrubs are placed in the rear, while, at the same time, they act as a foil or screen to better exhibit the more intense colors of the flowers themselves. Shrubs produce a permanent, all-the-year-round display, especially if evergreens are used. Few herbaceous plans create an ornamental effect continuously

ACCENT PLANTINGS
Plants with formal habit used to emphasize the symmetry of an old garden. Shrubs on either side unite foliage of trees with the lawn.

FORMAL PLANTING
Long and short axile development of a formal garden in Southern California. Architectural features supplement shrubs which are geometrically shaped and arranged.

without frequent renewal, and their appearance during the winter months is often unsatisfactory. When compared with intensively cultivated herbaceous flowers, shrubs are less expensive as less irrigation, plant food and attention are necessary to produce greater and more permanent results.

Shrub planting is of two general kinds; economic or utilitarian and aesthetic or ornamental. Economic planting divides and separates the various landscape features developed on an estate. At other times it may take the form of a hedge or screen to obscure some objectionable object, as a garage or service court, and thus serve the purpose of a more artificial barrier. Such beauty as it may have is incidental and should not call attention to the plantation, as the presence of the objects it was intended to screen would thus be exposed and the purpose of the planting defeated.

Aesthetic planting, on the other hand, is employed because of its beauty. More interesting material may be used, as it is the material itself, and its arrangement upon which attention is supposed to rest. Aesthetic planting may carry out the architectural lines of a building into a garden, serving thereby to unite the structure with its surroundings. At other times it is desirable because of its form or botanical interest, or it may be employed to frame some vista and direct attention to what might otherwise prove monotonous. Shrubs may be aesthetically used to accent or emphasize some landscape or architectural feature, or they may supply a setting or background for seats, statues, pergolas or some other special garden element.

Two general types or styles of planting are recognized: formal and informal. In formal design, areas are divided into more or less geometrical shapes. To conform to such regular shapes, planting must be carefully arranged. Lines are the dominant factors, and thus more attention is given to form and arrangement than to the individual interest of the plant material itself. More freedom of arrangement is found in informal planting. The proper relation of areas to each other, with less regard to their outlines, becomes the important factor, while increased inter-

AESTHETIC PLANTING
Tropical effect created by plant material with foliage of large, open texture

est in the material itself is possible. With informal planting the line is determined by mass, while in the formal style mass is determined by line. Horticultural features are emphasized in the informal style because of the interest shown in the plant material itself, while architectural lines are dominant in formal developments.

The effect of formal planting is produced by the symmetry, balance and unity of the plan. Little is left to the imagination and few unexpected arrangements appear.

The beauty of informal planting lies in the plants themselves and their irregular arrangement. The effect is obtained by viewing the plants in elevation, in other words, by looking against the face of their foliage in combination with the skyline thus produced. The plan is not geometrical and can not be entirely observed from any one point. New interests open up as one advances and new vistas are exposed. Informal planting allows a much wider range of shapes, color and scale, and consequently creates greater interest.

VISTA PLANTING
Plants Employed to Develop a Vista

To properly employ shrubs in planting schemes, it becomes necessary to not only study the correct arrangement, but to have an intimate knowledge of the plant itself. Its form or habit must be known before it can take its proper place in a formal development, or it may be that its characteristic shape is suggestive of Japanese gardens. Most shrubs with habit of a definite character have particular uses, while those possessing a more or less irregular and indefinite shape are especially desirable for grouping in large masses. But a shrub plantation must possess unity and harmony, as well as variety and interest. Besides certain similarities of habit, there must be more or less color and texture harmony between the foliage of associated varieties. Texture of a plant is that feeling produced by the size, shape, color and arrangement of its leaves and branches, and is thought of as hard, fine, soft, rough, or as being open or dense.

Successful grouping of shrubs is also dependent upon an intelligent knowledge of the color value of foliage. Value is the light or dark of the green, and may vary from the light, silvery gray of Germander to the rich black-green of Portugal Laurel. For practical purposes, value may be divided into three parts: light, medium and dark. All three may be used together. The light and medium, or the dark and medium, will prove satisfactory if closely associated, but it is seldom that the light and dark will not offer too much contrast. One value should predominate in every planting scheme.

Grouping is the associating or planting together of several plants of a particular variety in combination with other groups of different varieties to produce a unified and harmonious whole, which then becomes part of a landscape scheme. There must be a constant endeavor when grouping shrubs to create variety and interest by contrast without loss of harmony and unity. The successful use of a shrub in grouping is often dependent upon a thorough knowledge of its flower characteristics; what the size, color, fragrance and frequency of bloom is and how the general flower effect produced may become a part of the landscape design.

In formal planting, more or less regular forms are regularly placed, while the reverse is true in informal planting. Free growing shrubs of various heights are placed at unequal distances, depending on the spread of the plant. The outlines of informal plantations are curving and irregular with bays and promontories, while the heights varys with the depths of the planting. In this way high points in the skyline will correspond with the broadest parts of the plantation. Variety in height is obtained by the use of plant material with different habits, which allows a gradation of foliage from the highest points to the lawn edge. It is customary when grouping shrubs to think of them as belonging to three classes, according to size; tall or shelter, medium or filler, and low or facer shrubs. Shelter shrubs, because of their position, are subject to neglect and are usually composed of the more hardy and resistant classes. It is not necessary that they be especially refined in appearance, as they will not be subject to close inspection. Their purpose primarily is to create height and skyline and protect the more delicate and refined material nearer the inner edges of the plantation. Filler shrubs consist of large shrubs, but of more refined appearance. They may or may not produce a flower effect but are especially useful to give a dominant note to the plantation by planting more or less throughout the group one variety with some particular characteristic. There should be a dominant note in all plantings whether it be one of habit, color, texture, fragrance, time of flowering, or because the varieties are botanically related. If the more airy and feathery kinds of filler shrubs are selected, they may also be employed to unite the various foliage elements of a plantation. Facer shrubs are composed of the most refined kinds, particularly those of low or dwarf habit, as their foliage lends itself to a more perfect union between the lawn and the coarse and loosely arranged foliage of the larger shrubs. Facer shrubs are preferably evergreen, free flowering and have interesting and neatly arranged foliage and do not prove disappointing upon close inspection.

Plate No. 1

Tea house at the end of a Garden.

Plate No. 2

In contrast to No. 20, this bungalow attests the skill and care of the well-trained designer. The selection of materials is excellent. The harmony of split shakes and rough bricks is not to be questioned. The carefully rounded timbers and well-proportioned piers and buttresses combine the feelings of elegance, with adequate sense of support. The break in the wall harmonizes beautifully with the simple roof lines. The whole design is well fitted to the location. It is restful and convincing. When the plant growth is more mature, this may be expected to be a very beautiful bungalow.

Plate No. 2 A

Front door of a bungalow by the same designer as No. 2, and shows the same commendable characteristics.

Plate No. 2 B

Two bungalows by the author of No. 2 and No. 2A. The same harmony of line is noticeable as in No. 2 and No. 2A.

Plate No. 2 C

Rear view of the left hand bungalow shown in No. 2B. Note the care in placing the house in relation to the sycamore trees. The harmony and picturesqueness are admirable.

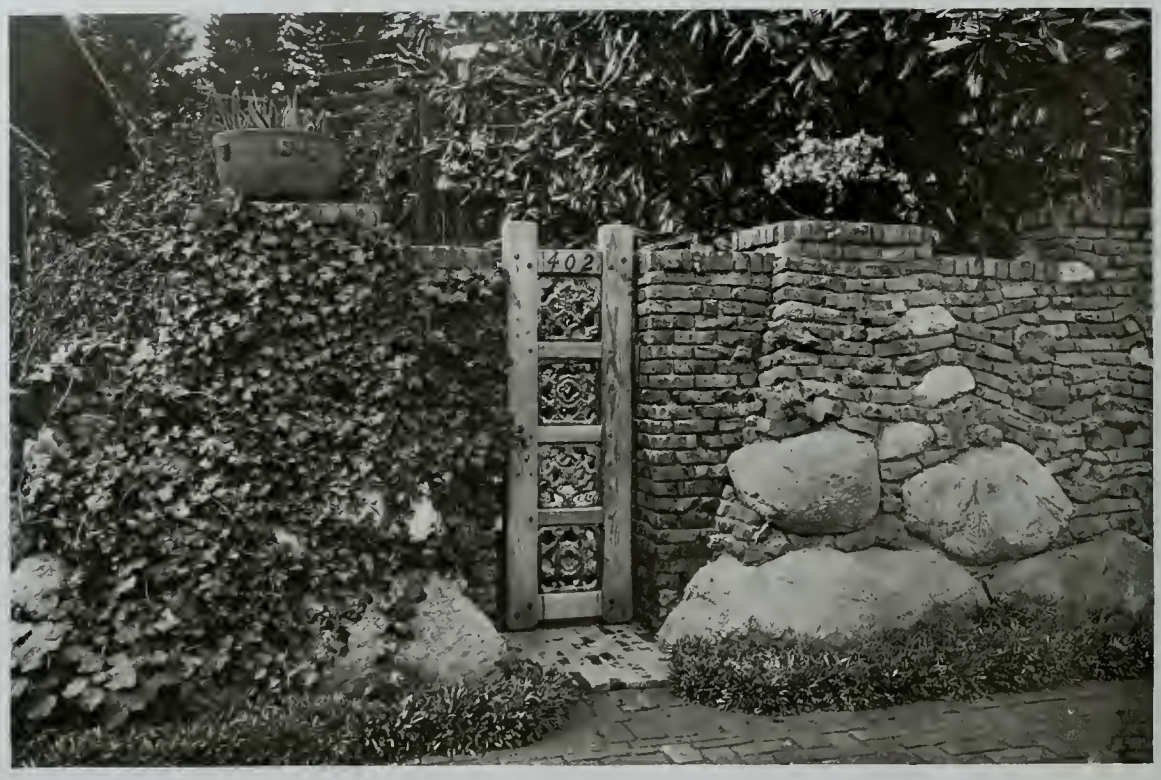


Plate No. 3

Gate to a little Garden.—One of the first designs of this character attempted in California.

Plate No. 4

Wall and gate posts of bungalow court are interesting and well-placed, though a little too heavy in proportion to the lightness of wooden structure in the court. It is to be regretted that the separate units in all schemes of this kind should be so cramped for space. This is a commercial requirement unavoidable by the architect. Note that it is not so extreme in this design as in No. 4. In No. 3, there is uniformity of style, but pleasing variety of design in the separate units. This should be the aim in this kind of scheme. On the whole, this is a well-designed and well-executed piece of work.

Plate No. 5

See description of Plate No. 6.

Plate No. 6

Here is a wonderful site, chosen with keen discrimination, and a very good plan in the main, but the full possibilities are not realized in the execution. Whether from lack of funds or interest, the general effect is commercial and lacking in inspiration. The log columns are in keeping with the surroundingings, but the hard lines of the eaves gutter, the flat look of the sawed siding and the white lines of the window trim give a cheap factory-like appearance. It needs the touch of the imaginative mind to bring this into complete harmony. The drives are well laid out, but again are just lacking in the one thing that might have made the place a dream.

Plate No. 7

Dining room of No. 5 and 6. The same defects are to be found here as in pictures 5 and 6. There is too much contrast between wood and plaster and brick and plaster. The furnishing is unfortunate. The chairs are of one style, the table of another, and the electric fixtures yet of another.

Plate No. 8

There is a reticence expressed in the design of this bungalow that would lead one to think that the owner or architect was not fully in sympathy with the bungalow movement. To escape the approbrium of the class, a delicate colonial door and window treatment could not be foregone though somewhat at variance with rough shakes. The effect of shakes cut to the size of shingles is a compromise. Notwithsanding all this, it is a successful design.

Plate No. 8.1

Corner of Garden.—The pergola is in harmony with the house and well-placed. Considering the size of the space given to it, a simpler arrangement of walks and planting less florid would improve it. This kind of garden may be very attractive, and this one is a step in the right direction.

Plate No. 8B

This dining room of a bungalow shows more or less an imitation of work that was done by someone of originality. The skill and thought in execution by such a person is here entirely lacking. Though the room is comparatively simple and practical, it lacks cohesion. Note the harsh contrast between wood and plaster. The ceiling beams look like a grillage hanging in space. The whole is hard and mechanical.

Plate No. 9

Bungalow Court.—This is a very interesting problem! The separate units are uniform in style and almost uniform in design, bordering on monotony, but the planting of cypresses is so arranged as to break the long view. The first units are varied by placing the doors at opposite corners, one with a hood, the other with an arch. The scheme is well studied and full of thought. The strip of grass at center is a pleasant break and gives the feeling of distance, which is extremely desirable for this limited space. The cypress softens the effect. This scheme is well studied and full of thought. The strip of grass at center is a pleasant break and gives the feeling of distance, which is extremely desirable for this limited space. The cypress softens the effect. This scheme will improve with age because it is right. The only regret is that the color is white, but in itself there is nothing to conflict with it.

Plate No. 10

Typical of hundreds of moderate-priced structures. The design is simple, direct and consistent. With a little more care in the detail, this would be a very attractive house.

Plate No. 11

Far more pretentious than No. 10, but belonging to the same class. The extreme white plaster is harsh and ill adapted to California light. The classic balustrade is unfortunate.

Plate No. 12

A Garden.—This bit shown in picture is admirably laid out and well-executed. The shadow of the pergola is illusively inviting, and the whole breathes of rest and seclusion, the ideal of all private gardens.

Plate No. 13

A Rustic Garden Nook.—As shown here, it is consistently and happily executed.

In the main a simple effective design with the exception of the projecting halved timbers, which is carried to a point of affectation.

Plate No. 14

Plate No. 15

The bungalow pergola columns are incongruously plastered, and are much too heavy for the wooden timbers supported. Wood is the obvious material to use in this house, with rustic siding. Otherwise, the design might be credible though trite.

Plate No. 16

From the living room of this bungalow, one looks across the garden to the tea house, shown in No. 1.

Plate No. 17

A Garden Terrace.—Below the main floor of this hillside bungalow, is the loggia opening on to the terrace.

Plate No. 18

Garden Seats and Walk.—This is admirably designed and executed. The planting is very effective.

Plate No. 19

Garden with Natural Effect.—As shown in picture, this is very effective. Nature is skillfully simulated. One can hardly believe the whole is the effect of chance.

Plate No. 20

In this bungalow design, the use of stone is particularly bad. The zigzag lines and varying masses of stone contrasting with the dark wood destroy all idea of unity; besides, it is much too heavy in proportion to the lightness of the wooden part of the structure. The plaster columns add another element of complication and discord. Unfortunately, this is typical of many houses erected by speculators. The obvious thing in designing this kind of house is to select materials that do not contrast too much in color and texture. If better judgment had been used in this, the money saved on stone work might have been used to advantage in little things that add to the real pleasure of living and make for better work.

Plate No. 21

In this bungalow court, the speculator and designer seem to have been of the same mind or the same person. It would seem to have no other reason for being than that of making money for the investor. The style and design of each unit is uniform, making for the monotony and dreariness of a factory district. Added to this, the buildings are hopelessly crowded. This is a good example of what not to do.

Lord and Burnham Open Western Office.

GREENHOUSE ON OLCOTT ESTATE, MORRISTOWN, NEW JERSEY.

Lord and Burnham Company, of New York, said to be the largest greenhouse designers and manufacturers in the world, has opened a Pacific Coast office under the direction of Mr. Geo. C. Pape, 1720 Oxford Street, Berkeley, Cal. As an expert nursery man and designer of greenhouses, Mr. Pape is widely-known. He has been engaged in this business on the Pacific Coast for the past thirty years, and in taking up the agency for Lord & Burnham Company, that firm is assured of having for its representative, a man in every way fitted to uphold the high reputation of the company.

A few of the more important California homes, where Mr. Pape has designed and built greenhouses are: Rudolph Spreckles home, Sobre Vista; A. B. Spreckles home, Napa; Mrs. Charles Lathrop home, Palo Alto; John Martin home, Ross; William Babcock home, San Rafael; Louis Bradburg home, Los Angeles; Edson Adams home, Oakland.

We show on this page types of small conservatories, and a reproduction showing linking of garden and greenhouse on estate of Dudley Olcott, Morristown, New Jersey. The latter illustration is from the booklet entitled "Two G's or Glass Gardens, A Peep into Their Delights," recently published by this company. This is a most interesting piece of literature, which illustrates and explains with well-drawn plans the general purposes and details of the green house. This company also issues for the convenience of architects, a large catalogue, which shows over a hundred pages of greenhouses, conservatories and glassed-in porches.

Lord and Burnham Company has two factories, one at Irvington, New York, thirty miles from New York City, and a factory at Des Plains, Illinois.

Advantages of the Latest Disappearing Bed.

A GREAT many people living in flats and houses, sleeping in a regular bed, look upon the wall or disappearing bed as an uncomfortable evil connected with apartment houses, which prejudices them against apartments. Another class of people who live in apartments get restless after a few months and move. It is hard to determine the reasons for this restlessness. Sometimes it is due to the fact that women like to rearrange their furniture, but cannot do so owing to the fact that the bed comes down at a fixed point and the rest of the furniture must be regulated accordingly.

Again, they may be sleeping in a draught, which possibly is only imaginary. The bed is fixed in one place, and to get out of this draught they have to rent another apartment.

Other people like to sleep close to the window and have the window open. The bed possibly is fixed at a point which is too far away to suit them. As soon as they find an apartment with the bed closer to the window they move.

When renting an apartment, if the prospective tenant objects to the location of the bed, the lessor has no way of overcoming this whim, unless he can show the prospective tenant that the other conveniences of the apartment overcome this.

Mr. S. B. Cooke and associates, in Portland, Oregon, realizing these facts, and wishing to make apartments more attractive to all classes of tenants, set about, a few years ago, to design a bed that could be made to overcome these various whims, and a bed that would tend to make apartments much more homelike and keep the tenants for longer periods.

They invented and patented the Universal Bed and tried it out in Portland to see how the public would take to it. They met with such great success that they have since opened up agencies all through the United States, and are meeting with universal success.

Illustration No. 1—Who would suspect that a disappearing bed was concealed behind this ordinary door?

As an instance of how the bed is liked, two years ago a certain owner, who builds a great many apartments in Portland, installed a small portion of Universal Beds and the greater portion of another make. A year ago he installed about forty Universal Beds and an equal number of the other beds. This year he installed all Universal Beds, or sixty-five in number.

The Universal Bed is equipped with "De Luxe" coil springs manufactured by the Kinney-Rome Company, of Chicago. These springs are extremely strong, can not wobble, and are tied with small helical springs instead of with stiff wires. These helicals permit individual action of the springs. They "give" only where the weight comes.

The Universal Bed will roll through a door 6 ft. eight in. high by a minimum of 18 in. in width. If the door is 2 ft. 6 in. wide it will permit a person to pass in or out of the closet without disturbing the bed.

Illustration No. 1 shows an ordinary closet with a door 2 ft. 6 in. wide by 6 ft. 8 in. high, the same size door as the rest of the doors in the room. Who would suspect a disappearing bed was concealed behind this ordinary door?

Illustration No. 2 shows the bed in the

Illustration No. 2—There is ample space to pass in and out of the closet without moving the bed

Photographs in this article reproduced from actual installations in the Wheeldon Annex Hotel Apartments, Portland, Oregon.

closet, made up ready for use. There is ample space to pass in and out of the closet without moving the bed.

Illustration No. 3 shows the manner in which the bed

Illustration No. 3—The bed rolls easily to any spot in the room.

is rolled out of the closet. All you have to do is to take hold of it, roll it out and roll it to the part of the room you wish to sleep in. The bed rolls so easily and can be guided so perfectly that a child can operate it witr very little effort.

Illustration No. 4 shows the bed down and ready for use. In this case it has been placed close to the window so that the sleeper may enjoy the fresh air.

You will readily see that owing to the fact that the bed is not attached to anything it affords the tenant an opportunity in case of illness or indisposition of any kind to place the bed down in an out-of-the-way place in the room and leave it down for any length of time without blocking the closet or doorways. It also permits a patient being wheeled about the room without disturbing him in the least.

It is the most sanitary of all beds. It is all iron, having no place for dust or vermin to lodge, and can be rolled to the window to be aired and receive the sunlight.

One bed will do for both room and sleeping porch, even if they are not adjoining. It can be placed on any part of the porch desired so as to escape draughts, early morning sun, etc. Or the bed may be placed between the room and sleeping porch and rolled out either way. Various sizes of closets may be used. A recess 20 in. deep by 4 ft. 10 in. wide with double or folding doors may be used, or a closet 20 in. wide by 4 ft. 6 in. deep will take the bed. These are the minimum sizes of the closets; these sizes may be enlarged as desired without affecting the operation of the bed.

The Universal Bed is an ideal bed for bungalows or hotels.

You can readily understand how much nicer it would be than either a regular bed or a fixed wall bed in the home.

In hotels the closets can be built in a number of rooms to each floor and say 50 per cent. of them equipped with Universal Beds, and several extra beds kept in the storeroom. The guest can either use the beds as a disappearing bed or can leave the bed down in the room as a regular bed. The hotel keeper can change the beds from room to room at will, to suit the requirements of any particular occasion.

The Universal Bed is thoroughly covered in every way with patents. Not only is the principle of the rocker legs covered, but all the working parts.

H. E. Simpton & Company, 578 Monadnock Building, San Francisco, are the distributors of the Universal Bed for Northern California. Other branches are located in the principal cities of the Pacific Coast and in the East.

Mr. Simpton, manager of the San Francisco office, has installed a Universal Bed in the Monadnock Building for the purpose of showing its actual working qualities, together with a small-size closet, which plainly shows the amount of space this bed requires when not in use. It is a practical demonstration and architects are invited to call at the office of H. E. Simpton & Company in San Francisco or at other coast display rooms to inspect these beds.

As below noted, all photographs on this page are exact reproductions of this type of bed as installed in a Portland apartment house, all photographs presenting a view of the bed in actual operation.

Illustration No. 4—Bed placed close to window providing all advantages of the sleeping porch

Historical Environment of Old Firm.

THE home offices of N. and G. Taylor Company, the oldest tin plate house in America, is located in the Mariner and Merchant building, Philadelphia. The name of the office building is derived from the first line of Stephen Girard's famous will, "I, Stephen Girard, Mariner and Merchant of the City of Philadelphia, etc." This substantial modern office building stands on historic ground at the corner of Chestnut and Third Streets. Old Dock Creek, in its day a busy harbor, and in winter a famous skating place for hundreds of men and boys—but long since arched over and converted into a large sewer—runs under the building.

On one side stands Stephen Girard's original bank, with its old, weatherbeaten columns, but so elaborately refitted inside that the famous financier of Colonial days would be startled indeed, on passing through its well-known portal.

On the other side is the Bank of North America, one of the oldest in this country, founded in 1781.

Barely a square to the south stands the old Blue Anchor Inn, a quaint little landmark in the midst of the tide of commerce that has surrounded it. Formerly it stood on the bank of Dock Creek, and tradition states that it was here that William Penn landed on his first visit to Philadelphia. Now that Dock Creek is filled in and arched over and converted into Dock Street and the water-front considerably extended by the widening of Delaware Avenue, the little sailor's inn is nearly three city squares from the river front. The magnificent building of the Philadelphia Bourse is located on the site of a large pond at the head of Dock Creek—in the early days a great feeding ground for wild ducks and geese.

Around the corner from the Blue Anchor Inn at the Corner of Walnut and Second Streets is a small, old-fashioned building apparently in its original condition and untouched by modern improvements and occupied by a gunsmith. In this house the first child born in Philadelphia, first saw the light of day. Old Christ Church tower is plainly visible from our office window, and when it was partly destroyed by a bolt of lightning several years ago, the fire was viewed by our employees.

The site of our office building was formerly the center of newspaper publishing activity in Philadelphia—several of the city's leading papers having had their offices in the business buildings here. Lincoln's assassination was announced to the citizens of Philadelphia from this building, and it was a scene of stirring activity during the tension of Civil War days.

Written by a representative of the old-established firm of N. & G. Taylor Company, this interesting, historical article on the location of its offices, affords an opportunity of "glimpsing" that spirit of early-day "atmosphere" that surrounds the older Philadelphia institutions, and the preservation on their part of those sturdy virtues, characteristic of the business methods of our Quaker ancestors.

Across from the Blue Anchor Inn stands the Commercial Exchange building, designed by Strickland, at one time occupied by the Philadelphia Stock Exchange. This historical landmark was the starting point for the principal omnibus lines before the days of horse-drawn street cars, which in turn were supplanted by the present electric transit system.

On square to the north of us is the site of William Penn's residence, on Letitia Street.

On Market Street, formerly known as High Street, one square to the north of us, George Washington's residence was located; and just beyond on Arch Street, stands the little house where Betsy Ross, in 1777, made the first American flag.

Under the shadow of our building, to the west, stands Carpenter's Hall, the scene of the meeting place of the first Continental Congress.

One square beyond this is Independence Hall, with its venerable relics, and its 25-year-old roof of Target-and-Arrow tin—not so venerable, perhaps, but getting well along in years.

Adjoining Independence Hall is Congress Hall, celebrated as the meeting place of the first Senate and the first House of Representatives of the United States of America. President George Washington's second inaugural took place in this building on March 4th, 1793. Four years later, John Adams was here inaugurated second President of the United States. Recently this building has been undergoing alterations to restore it exactly to its original appearance. These involved replacing with shingles the tin roof that had covered the structure for more than twenty-five years. Upon removal, the tin was found to be in good condition, and we have a number of sample pieces of it available for distribution, as evidence of the durability of our product. This tin was our Target-and-Arrow brand, put on about the same time as the tin roof of Independence Hall.

This same tin also covers the buildings occupied by the local headquarters of the Grand Army of the Republic, and by the American Philosophical Society.

We could continue to enumerate these old historical places that surround us, and lend, perhaps unconsciously, an atmosphere of conservatism and respect for old ways, and the sturdy virtues of these old Philadelphia merchants and manufacturers who laid so sound a foundation years ago for the prestige of Philadelphia-made goods.

We have a pride in our products, and a natural desire to see their good reputation increased. We hope that as time goes on we may be able to widen our circle of friends among the architectural profession—a friendship based upon good value furnished and good results obtained with Target-and-Arrow roofing tin.

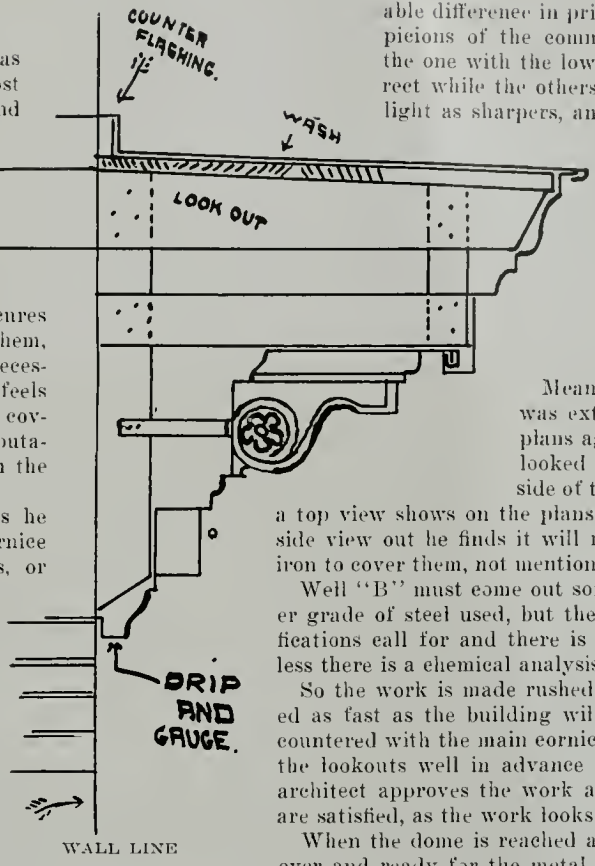
MORE DEFINITE SPECIFICATIONS
Continued from Page 253

limited business education, and has taken part in erecting some of the most noted metal work in the country, and feels it is but a slight matter to become a contractor.

And after entering business for himself feels that if he had one large job to start on he could quickly acquire a reputation for himself.

So hearing of this contract he secures a set of plans and quickly goes over them, or even takes more time than is necessary, but submits his bid, which he feels is a little low, but he thinks if he covers expenses on this contract a reputation which will help secure work in the future which will be profitable.

Also in reading the specifications he sees he does not have to rivet the cornice miters, or the dentals or brackets, or even solder them on all sides, as to the joints in the cornice there is nothing said, so they are lapped and soldered. He sees the carpenter is to furnish and set all lookouts so he decides to nail the cornice to them, and to solder the dentils at the top and bottom only and to use a light gauge iron in them if the waste from cutting the cornice is not enough.



Who could tell the difference without taking one off, then he may take off one of the heavier gauge ones as they are well mixed up before soldering on.

Also on the dome, there is nothing in the specifications about water proof paper being placed under the ribbed roof so this is left out; as to the skylight there is nothing said about it being reinforced in the curb or bars, so this is also left out; he then decides on the price erected, and submits his bid as the best material and work for the money.

Now here is "C", a firm of 20 years standing in the Sheet Metal Contracting business, they submit their estimate on the same job and figure on doing the work in the best possible manner, they also expect to make a legitimate profit of 10 per cent. Now which of these two parties will land the contract? Why "B" to be sure.

But you say the specifications say to the lowest responsible bidder. But how are you going to prove that "B" is not a responsible man, he was a skilled and competent workman, and it stands to reason he knows how to do the work well, and again look at the price almost $500 under the next lowest man. There is surely something wrong with these other fellows.

The fact that there were a dozen estimates given on the same amount of material (but not time as no one can correctly make an estimate on the amount of time on any job) and all have a considerable difference in price, at once arouses the suspicions of the committee, and very naturally the one with the lowest figures is taken as correct while the others are regarded in the same light as sharpers, and in this manner they say they have at last got the upper hand of them. This system of competition sure will bring out the honest prices. So the contract is signed, and "B" may commence the erection of the metal work as soon as the wood work is far enough along.

Meanwhile "B" having seen he was extremely low, goes over the plans again and finds he has overlooked some truss covers on each side of the dome, and of which only a top view shows on the plans, and after he has laid the side view out he finds it will require some 10 squares of iron to cover them, not mention time and solder it takes.

Well "B" must come out somehow so there is a cheaper grade of steel used, but the same weight as the specifications call for and there is no way to detect this, unless there is a chemical analysis made of the steel.

So the work is made rushed to the building and erected as fast as the building will permit, no trouble is encountered with the main cornice, the carpenter placing all the lookouts well in advance of the cornice men. The architect approves the work and the building committee are satisfied, as the work looks all right.

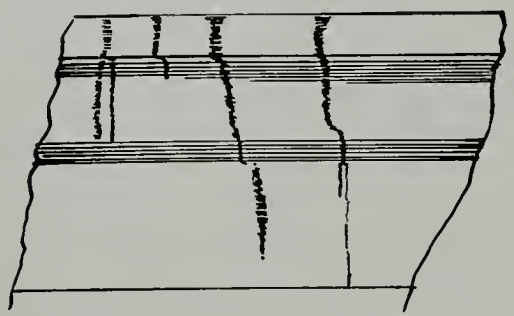
When the dome is reached and the roof is all sheathed over and ready for the metal roofing, "B" sees the carpenter about the batting strips which should be in place. The carpenter looks surprised and says: "I supposed you did that as there is nothing in the specifications in regard to them," and as "B's" work does not include any wood work the job is held up until the architect and building committeee decide about it, the outcome is that the building committee pay the carpenter $90 extra to place the batting strips in place.

Now these oversights in the specifications are always costly delays and could be avoided if a little more time was taken in writing them up.

The dome is at last completed and accepted and looks fine to any one not familiar with metal work. A metal worker could at once detect the slighting of the work with a close inspection.

But this is not done as there is no one familiar with this work on the committee.

The cornice and all other metal work is painted and sanded either after the right amount of exposure to the weather or is washed with a solution of acid and water, which gives an artificial exposure, but is not recommended.



EFFECT OF WATER ON CROWN MOLD

Now we assume a year has passed, and we again visit the church which has now been occupied some six months, and by careful inspection note the skylight is slightly sagged, also the cornice has opened on the two corner miters next the street.

To Be Continued

Current Notes and Comment.

Mr. Horace G. Simpson and Mr. Hart Wood announce the opening of offices in the French Bank Building, San Francisco, for the practice of Architecture, under the firm name of Wood & Simpson.

Mr. Simpson is a graduate of the Institute of Technology, and has studied extensively in Europe as holder of the Rotch Traveling Scholarship. He also has had valuable training as a designer in the offices of Cass Gilbert, Guy Lowell, and other leading eastern architects. Since coming to California he was for years chief designer for L. B. Dutton & Co., now retired. Among other buildings for this firm which have caused favorable comment may be mentioned the First Trust and Savings Bank of Oakland, and the English Cottage for the Holt Mfg. Company's Exhibit at the Exposition.

Mr. Wood came to California in 1902, and was for a time connected with the office of Mr. Hodges, then resident architect of Stanford University. After coming to San Francisco he allied himself with the firm of Bliss & Faville, and remained with them until recently. During his connection with that firm he has had charge of the design of most of their important work; among which may be mentioned the Bank of California, Columbia Theatre, Savings Union Bank & Trust Company, Children's Hospital, Masonic Temple, St. Francis Hotel Additions and the main group of buildings at the Exposition.

The sound training of these men and their long experience with the highest class of work promise well for the future of the firm.

Among the larger buildings in San Francisco, which are at present being painted with The Muralo Company's Concreto is the exterior of the Geary Street car barns of the Municipal Railways, as specified by the City Engineer's office, and the building of Tillman & Bendel, Wholesale Grocers, located at Drumm and California Streets.

* * * * *

Architects should be careful about the enamel used on a job, as there is a great possibility of substitution being made at this time, owing to the high prices of pure French zinc enamels.

The price of Kyanize White Enamel was materially advanced by the Boston Varnish Company this month, due to the abnormal cost of French zinc. The manufacturers state that during the European war, it may be necessary to advance prices still further.

* * * * *

The recent death of J. M. Bickel, president and founder of the American Keene Cement Company, caused widespread sorrow among his many friends on the Pacific Coast. Mr. Bickel passed away at his home in Berkeley. He had been in the plaster business for more than twenty-five years, and was considered one of the most able authorities on plaster in this country. His surviving sons will conduct the business of the company. Ben F. Bickel, the eldest son, is now located at the San Francisco office, in the Monadnock Building.

IMPRESSIONS OF SOME BUNGALOWS AND GARDENS

Continued from Page 252

the interest and labor expended upon this petty art could be put into the work itself, many ordinary buildings would be lifted above the commonplace.

Bungalow books are worse than architects' pictures, inasmuch as they offer a selection degrading to the art. Not because they always illustrate bad architecture, but because they offer the ready-made, and, in the hands of the enthusiastic client, prevent the architect from solving the problem unbiased; also because they are used by builders without an architect. Of course, this evil is only temporary. In the evolution of a progressive art, they may help to arouse interest and must cease to be used when the enlightenment of the people transcends this method of furnishing plans.

The value of design is far from being generally appreciated in California, but the seed is sown and we cannot drop back to the apathy of a few years since.

The bungalow court idea is to be regretted. Born of the ever-persistent speculator, it not only has the tendency to increase unnecessarily the cost of the land, but it never admits of home building. It must be either a renting or buying proposition.

A spring is no higher than its source. One must not blame the architect for everything. Not long since, I heard an owner say, in regard to decorating and furnishing a room about which I happened to know the facts: "I would not think of asking my architect about that. It wouldn't be my room." However, this same owner had no hesitation in visiting a department store decorator, who showed her the latest consignment and made a very good bill. The owner herself honestly believed she had made her own selection, but it was entirely the cleverness of the salesman that did the trick, and he had never seen the room, which, needless to say, became extraneous to the whole scheme of the house.

Some queer things have happened to the houses, that never appeared in the designs of them, and many owners still insist on having their own way, when the training and better judgment of the architect should prevail. Unfortunately, many bungalows are built entirely without the service of an architect.

Just a word of protest against the use of blinding white paint and plaster. It may be excusable in a dull country where the sun never shines in all its splendor, but here in California, we should have some pity for tired eyes when even the strongest must eventually succumb to the outrageous glare.

The great lesson of the P. P. I. E. lies open to us. It is inconceivable that we should be so unfeeling or careless as to neglect its most convincing argument for color. Of course, even man need not make an exposition of his abode. Appropriate color should be the aim, but most certainly color.

The following illustrations of bungalows are taken at random, but they represent prevailing types. The impressions noted under each picture were written hurriedly and may seem incomplete even as impressions, but it is hoped that this superficial view may arouse the interest of all fair-minded architects to more frankly express their own views of each other's work, and to a just criticism of those who have not the advantage of the title.

Pacific Coast Chapters, A. I. A.

"The Architect" is the official organ of the San Francisco Chapter of the American Institute of Architects.

San Francisco Chapter, 1881—President, William B. Faville, Balboa Building, San Francisco, Cal. Secretary, Sylvain Schnaittacher, 233 Post Street, San Francisco, Cal. Chairman of Committee on Public Information, William Mooser, Nevada Bank Building. Chairman of Committee on Competition, William B. Faville, Balboa Building, San Francisco. Date of meetings, third Thursday of every month; annual, October.

Southern California Chapter, 1894—President, S. Tilden Morton, 604 Title Insurance Building, Los Angeles, Cal. Secretary, Fernand Parmentier, Byrne Building, Los Angeles, Cal. Chairman of Committee on Information, W. C. Pennell, Wright & Callender Building, Los Angeles. Date of meetings, second Tuesday; except July and August, at Los Angeles.

Oregon Chapter, 1911—President, William G. Holford, Chamber of Commerce Building, Portland, Ore. Secretary, Joseph Jacobberger, 801 Board of Trade Building, Portland, Ore. Chairman of Committee on Public Information, Joseph Jacobberger. Date of meetings third Thursday of every month at Portland; annual, October.

Washington State Chapter, 1894—President, James H. Schack, Lippy Building, Seattle, Wash. Secretary, Arthur L. Loveless, 513 Coleman Building, Seattle, Wash. Chairman of Committee on Public Information, J. S. Cote, 520 Haight Building, Seattle. Date of meetings, first Wednesday, except July, August and September at Seattle, except one in spring at Tacoma; annual, November.

Colorado Chapter, 1892—President, W. E. Fisher, Railway Exchange Building, Denver, Colo. Secretary, Harry J. Manning, Majestic Building, Denver, Colo. Chairman of Committee on Public Information, Arthur A. Fisher, 459 Railway Exchange Building, Denver, Colo. Date of meetings, first Monday in every month at Denver, Colo.; annual, September.

The American Institute of Architects, The Octagon, Washington, D. C. Officers for 1915: President, R. Clipston Sturgis, Boston, Mass.; First Vice-President, Thomas R. Kimball, Omaha, Neb.; Second Vice-President, D. Knickerbacker Boyd, Philadelphia, Pa.; Secretary, Burt L. Fenner, New York City, N. Y.; Treasurer, J. L. Mauran, St. Louis, Mo.

Board of Directors for one year—John Hall Rankin, Philadelphia; C. Grant LaFarge, 25 Madison Square, N., New York, N. Y.; H. Van Buren Magonigle, 7 West 38th Street, New York, N. Y. For two years—Octavius Morgan, 1126 Van Nuys Bldg., Los Angeles, Cal.; W. R. B. Wilcox, Central Bldg., Seattle, Wash.; Walter Cook, New York, N. Y. For three years—Charles A. Coolidge, Boston, Mass.; Charles A. Favrot, New Orleans, La.; Elmer C. Jensen, Chicago, Ill.

Minutes San Francisco Chapter, A. I. A.

The regular monthly meeting of the San Francisco Chapter of the American Institute of Architects was held in the Green Room of the Hotel St. Francis, on Thursday evening, November 18, 1915.

The meeting was called to order by Mr. Faville at 8:35 p.m.

Thirty-six members were present, and Messrs. R. B. Hale, A. H. Markwart, Percy V. Long, Arthur Mathews, Ralph Stackpole, A. J. Cleary, B. R. Maybeck, C. H. Cheney and Loring P. Rixford were present as guests of the Chapter.

Minutes. The minutes of the meeting held October 21, 1915, were read and approved.

Standing committees. Sub-committee on competitions—An exhibition of the drawings submitted in competition for the Sacramento library was a feature of the meeting, and Mr. Mooser, of the competition committee, reported the successful termination of this competition with the selection of the plans submitted by Mr. Rixford.

A resolution was also offered by the committee, asking for the appointment of a special committee by the chair to follow up the matter of a competition for the proposed state building in San Francisco.

Board of directors. Under this head Mr. Faville offered the following resolution:

"Whereas, the members of the California club are endeavoring to have placed in Lincoln Park, at the termination of the Lincoln highway, a bronze statue by Mr. Frazer, the sculptor, known as "The End of the Trail," and

"Whereas, the spirit and conception of the statue, known as "The End of the Trail," portray the idea of a vanishing race, and

"Whereas, a monument to mark this most magnificent highway should, at least, express the indomitable courage and hope of the future that pervades the city of San Francisco,

"Therefore, be it resolved, that the San Francisco Chapter of the A. I. A. deplores this movement and hopes that a memorial more in keeping with the spirit of the west may be chosen to mark the western portal of the Lincoln highway."

On recommendation of the board of directors, the name of Mr. B. R. Maybeck was placed in nomination as an honorary member of the Chapter.

Mr. Faville also reported that an interview had been held with the state board of harbor commissioners relative to the viaduct at the foot of Market street, and that assurance had been given that the structure would not be as published, and that the Chapter would be notified of further proceedings in the matter.

Special committees. Dinner to be given at Zeile's studio. Mr. Faville reported that this committee was hard at work and that an interesting program was being arranged for the next Chapter meeting, to take place at the studio as scheduled on December 18th, in conjunction with the Architectural club.

Mr. Bakewell, for the committee to examine the books for the secretary and treasurer, reported that the books had been examined and found correct.

Communications. From William Hague, secretary of the General Contractors' Association, enclosing copy of a report on the preservation of the Fine Arts building at the P. P. I. E.

From August G. Headman, secretary-treasurer of the Architectural League of the Pacific Coast, thanking the Chapter for its contribution to the league scholarship fund.

From W. H. Toepke, in reference to his nomination as trustee of the Chapter.

From Burt L. Fenner, secretary of the A. I. A., relating to the standard documents issued by the institute.

From E. C. Kemper, regarding committee to the forty-ninth annual convention, and one with reference to the election of delegates to the convention.

From the Washington Chapter, A. I. A., enclosing "Suggested form of competition program for local building work of a minor character."

From Chas. E. Cheney, relative to the preservation of Exposition features.

New Business. All communications were ordered received and referred to the board of directors for their action.

The resolution offered by Mr. Mooser, for a committee on the matter of a state building, was duly carried.

The resolution offered by Mr. Faville, on the matter of a statue terminating the Lincoln highway, was duly carried.

The chair announced the appointment of the following committees for the ensuing year: Committee on competitions—William B. Faville, Chairman; John Galen Howard, William Mooser, Sylvain Schnaittacher. Housing committee—John Bakewell, Jr., chairman; Bernard J. Joseph. Committee on legislation—Edgar A. Mathews, chairman; William Mooser, Mathew O'Brien, John J. Donovan. Committee on relations with contractors' affairs—G. Alexander Wright, chairman; Henry H. Meyers, Morris M. Bruce. Committee on relations to Home Industry League—E. J. Krafft, chairman (Mr. Krafft to appoint his own committee). Committee on relations with Chamber of Commerce—J. Stewart Fairweather, chairman; C. P. Weeks. Committee on relations with Civic League—Sylvain Schnaittacher, chairman (Mr. Schnaittacher to appoint his own committee. Committee to follow up matter of competition for state building—William Mooser, chairman; Fred H. Meyer, Edgar A. Mathews, Clarence Ward.

The resolution offered by Mr. William Mooser, instructing delegates to the convention to support and vote for the election of the regular ticket for institute officials, headed by Mr. Thos. R. Kimball, was duly seconded and carried.

Election of delegates. In accordance with the nominations made at the previous meeting, ballots were taken for the election of two delegates in addition to the president and secretary for the forty-ninth annual convention of the Institute. Mr. Fairweather and Mr. Bakewell were appointed tellers to count the ballots. Messrs. John Galen

Howard and William Mooser having received a majority of the ballots cast, were thereupon duly declared elected as delegates.

Nomination of director. The communication from Mr. Toepke having been read, stating his inability to serve as a director, on motion of Mr. Mooser, Mr. Herman Barth was presented in nomination as a directors. On motion of Mr. Schnaittacher, Mr. Hays was presented in nomination as a director. Nominations were then closed.

Discussion on the preservation of the exposition. The speakers were introduced by Mr. Faville: Mr. R. B. Hale, chairman of the preservation committee, P. P. I. E., stating what was being done toward the preservation of some of the main features of the exposition and what, in his opinion, would be feasible. He stated that, in any event, it was likely that the Fine Arts building would be kept open after the close of the exposition, and offered the suggestion that the Marine boulevard and a permanent art building at a fitting location would be worthy memorials of the exposition.

Mr. Percy Long spoke on some of the difficulties which would arise if the Fine Arts building were to remain in its present location, due to the action of congress, and the litigation which had resulted in the opening up of Lyon street.

Mr. A. H. Markwart gave a detailed and interesting synopsis of the great cost and feasibility of preserving the California and Fine Arts buildings.

Mr. Arthur Mathews spoke on the influence of th exposition as affecting the painter, and Mr. Stackpole followed on the influence of the sculptor.

Mr. Maybeck spoke on the preservation of the Fine Arts building, and made the point that the cost of the land would probably not be as great as the cost of the drawings that were made for the building.

Mr. A. J. Cleary, as a representative of the city engineer, brought out some of the facts as to the opening up and grading of streets within the exposition area.

The report from the General Contractors' Association, relative to the preservation of the Fine Arts building, was also read, as was the report from the municpal conference on the same subject. Owing to the absence of Mr. Bruce Porter, a letter expressing the opinion that money should not be wasted in the attempt to perpetuate portions of what has been a temporary and perfect dream.

At the close of the discussion, the following resolution was offered by Mr. Faville, and duly seconded and carried:

"Whereas, the cost of saving any of the temporary buildings, now standing on the exposition site, will be prohibitive, and since making them permanent would practically mean the demolition of the structures and their re-erection in permanent material;

"Therefore, be it resolved, that it is the intent of this meeting that we consider in the following order the importance of saving various portions as commemorating the exposition:

"1. That we place above every endeavor the saving of the Marina and a connecting boulevard to Van Ness avenue;

"2. That the drawings and plans of the architects be saved;

"3. That the original models of all sculpture shall be saved;

"4. That the mural paints may be saved;

"5. The dome of the Horticultural building;

"6. That the Shaft of Progress be erected in permanent materials.

"Aside from these, it is our belief, that it is wiser not to attempt to save any of the present work, except for such temporary use as might be a means to influence the creation of a permanent memorial."

Announcement was made by the chair that the subject of making a restricted zone of the exposition area and the development of the foot of Market street would be the topics for discussion at the January meeting.

Adjournment. There being no further business before the Chapter, the meeting adjourned at 11:00 p.m.

Minutes of Southern California Chapter, A. I. A.

Minutes of the eighty-eighth meeting of members. Regular meeting. The eighty-eighth meeting of the Southern California Chapter of the American Institute of Architects was held at the City Hall, Los Angeles, on Tuesday, October 12th, 1915.

The meeting was called to order at 5:04 p.m. by President A. C. Martin.

The following members were present: A. B. Benton, Lyman Farwell, John P. Krempel, A. C. Martin and August Wackerbarth.

It was moved by Mr. Krempel, properly seconded and carried, that the meeting adjourn until the following Tuesday, October 19th, at which adjourned meeting the business of the regular annual meeting would be transacted.

The meeting adjourned at 5:07 p.m.

Fernand Parmentier, Secretary,
By A. R. Walker, Acting Secretary.
October 29, 1915.

Minutes of the eighty-ninth meeting of members. Adjourned meeting. Ninth annual meeting. The ninth annual meeting of the Southern California Chapter of the American Institute of Architects was held at the Hollenbeck Cafe, Los Angeles, on Tuesday, October 19th, 1915.

The meeting was called to order at 7:55 p.m. by President A. C. Martin.

The following members were present: A. L. Acker, John C. Austin, F. P. Davis, P. A. Eison, A. M. Edelman, W. E. Erkes, Lyman Farwell, Robt. Farquhar, Homer W. Glidden, Frank D. Hudson, John P. Krempel, Afl C. Martin, H. H. Martin, Octavius Morgan, O. W. Morgan, S. T. Norton, Robert H. Orr, H. M. Patterson, A. F. Rosenheim, F. L. Stiff, August Wackerbarth, Albert R. Walker, H. F. Withey and Wm. Henry Willson.

As guests of the Chapter were present Mr. Erward Stotz, a visiting architect from Pittsburgh; W. E. Prine, of the Southwest Contractor, and John Bowler, of the Builder and Contractor.

Minutes of the eight-seventh and eighty-eighth meetings of members were read and approved.

The president, A. C. Martin, presented the annual address, followed by the annual report of the seeretary.

The treasurer's annual report was next presented, and the following committee was appointed to audit this report: Octavius Morgan, A. M. Edelman and Robt. Orr.

Awaiting the report of the auditing committee, the annual report of the board of directors was read by Mr. John P. Krempel.

Following the president's annual address and the reading of the various reports, it was ordered that this address and these reports be spread upon the minutes of the meeting.

Communications were next read as follows:

From Mrs. W. H. Eames, acknowledging the receipt of the Chapter's resolutions on the death of her son, W. S. Eames.

From E. C. Kemper, executive secretary A. I. A., asking for our action with regard to the publication and distribution of the proceedings of the annual convention. This matter was deferred as a special item under the head of new business.

From the Tile Layers and Helpers Unions, Local No. 24, relative to co-operation in the improvement of the tile industry. This communication was ordered filed.

From Mr. Burt L. Fenner, secretary of the American Institute of Architects, relative to the election of delegates to the convention. This communication was referred as an item under new business.

From the Iowa Chapter of the A. I. A., with a program of a convention to be held in their state. This communication was ordered filed.

Following the reading of the above communications, the auditing committee reported that the treasurer's report was in all respects correct.

Nomination and election of officers was next in order.

Mr. F. L. Stiff, seconded by Mr. John C. Austin, placed in nomination the name of Mr. S. Tilden Norton for president. Upon motion made, duly seconded and carried, nominations were declared closed and the secretary was instructed to cast the ballot. The secretary announced the election of Mr. S. Tilden Norton as president. Mr. S. Tilden Norton then took the chair.

Mr. John C. Austin, seconded by Mr. Octavius Morgan, placed in nomination Mr. J. E. Allison for vice-president. Upon motion made by Mr. F. P. Davis, duly seconded and carried, nominations were declared closed and the secretary instructed to cast the ballots, whereupon Mr. Allison was declared unanimously elected.

For secretary, Mr. A. C. Martin, seconded by Mr. Wackerbarth, nominated Mr. Fernand Parmentier for secretary. Upon motion duly made, duly seconded and carried that nominations be closed, Mr. Parmentier was declared unanimously elected.

Upon motion made by Mr. Octavius Morgan, duly seconded and carried, a leave of absence for an indefinite period was rendered Mr. Parmentier, and A. R. Walker was appointed secretary pro tem during such absence.

For treasurer, Mr. Octavius Morgan, seconded by Mr. Lyman Farwell, nominated Mr. August Wackerbarth.

After motion made, duly seconded and carried, nomination were declared closed, and Mr. Waekerbarth was declared unanimously elected for treasurer during the ensuing year.

Nominations for three-year and two-year directors were made as follows: Mr. H. F. Whithey by Mr. John C. Austin;

Mr. Robt. D. Farquhar by Mr. F. D. Hudson, and Mr. J. J. Backus by Mr. Edelman.

Upon motion made by Mr. A. F. Rosenheim that nominations be closed, a vote was ordered to proceed by ballot, the candidate receiving the greater number of votes to receive the three-year term. Tellers distributed blank ballots among members, and such ballots returned tallied as follows: Robt. D. Farquhar, 21; J. J. Backus, 16; H. F. Withey, 12. Whereupon the chair declared Mr. Robert D. Farquhar would serve as director for the three-year term, and that Mr. J. J. Backus would serve the two-year term left vacant by the election of Mr. J. E. Allison for vice-president.

Appointment of committees was deferred by the president until a later date.

The election of delegates to the forty-ninth annual convention was next in order. The following were elected by acclamation, after having been duly nominated and seconded by the members present: John C. Austin, A. F. Rosenheim, A. C. Martin, Lyman Farwell and S. Tilden Norton.

For alternates, it was moved by Mr. Octavius Morgan, seconded and carried, that these be appointed by the president at a later date.

A letter was next read from Mr. Burt L. Fenner regarding the publication of the minutes of the convention. It was moved by Mr. Martin, duly seconded and carried, that the secretary advise the board that this Chapter approves the discontinuance of such publication in detailed form, and in place thereof the publication in the Journal of the narrative account of such transactions, as recommended by the institute board of directors.

Discussion was next entered into regarding the advisability of resigning from the Southwest Society. Upon motion made by Mr. John C. Austin, seconded by Mr. Lyman Farwell, it was moved that this Chapter meet their present obligations and resign.

Mr. Edward Stotz, of Pittsburgh, was next called upon, and in an interesting talk spoke of the methods used in furthering the profession's interests by the Pittsburgh Chapter.

Mr. Percy A. Eisen brought up for discussion the matter of certain methods used by local speculative builders, followed by a short talk by Mr. H. M. Patterson. Upon the conclusion of these remarks, the president appointed a committee, consisting of Mr. Percy A. Eisen, Mr. H. M. Patterson and Mr. Robert H. Orr, to investigate and report at the next meeting.

The meeting adjourned at 9:55 p.m.

Fernand Parmentier, Secretary,
By A. R. Walker, Actiing Secretary.

Minutes of the ninetieth meeting of members. Regular meeting. The ninetieth meeting of the Southern California Chapter of the American Institute of Architects was held at the Hollenbeck Cafe, Los Angeles, on Tuesday, November 9th, 1915.

The meeting was called to order at 7:45 p.m. by President S. Tilden Norton.

The following members were present: A. L. Acker, J. E. Allison, John C. Austin, J. J. Backus, A. B. Benton, F. A. Elston, Robert Farquahar, P. H. Frohman, Homer W. Glidden, John P. Krampel, A. C. Martin, B. M. Morris, Octavius Morgan, O. W. Morgan, S. T. Norton, H. M. Patterson, A. F. Rosenheim, G. F. Skilling, August Waekerbarth, Albert R. Walker, H. F. Withey and F. R. Schaefer.

As guests of the Chapter were present: Mr. Thos. Fellows, Mr. B. P. Cockburn, Mr. W. E. Prine, of the Southwest Contractor; and John Bowler and W. Dellamore, of the Builder and Contractor.

The minutes of the eighty-ninth meeting of members were read and approved.

Communications were next read as follows:

From Mr. Arthur S. Heineman, asking for the assistance of the Chapter in providing material, sketches, etc., for the benefit to be given the Belgian relief work. The secretary was instructed to reply to Mr. Heineman.

From the Minnesota Chapter, A. I. A., asking our opinion as to that portion of the new constitution and by-laws referring to associate membership. The secretary was instructed to communicate the official action already adopted by this Chapter in regard to the same.

From the Illinois Chapter, A. I. A., setting forth their program and itinerary for delegates visiting the convention in Washington. This commication was ordered referred to our own local delegates.

From the Washington Chapter relative to certain program form of competition. This program was referred to the committee on competitions.

Following the reading of these communications, the order of business was set aside to permit Mr. Thos. Fellows to address the Chapter. His talk was greatly enjoyed by all members present. Through the courtesy of the Southern California Music Co., a Diamond Disc machine was used by Mr. Fellows throughout his talk, which added greatly to the interest and enjoyment of the evening. Following Mr. Fellows' talk, a hearty vote of thanks was rendered him for the enjoyable occasion. A vote of thanks was also rendered the Southern California Music Co. for the use of their instrument.

For the special committee on speculative building concerns, Mr. P. A. Eison reported that several meetings had been held, with the result that favorable assurances had been rendered by the large lumber and material houses who had been responsible for the unfortunate practice.

For the committee on competitions, Mr. J. E. Allison reported that two programs had been passed upon favorably, and in connection with the branch library for the city of Los Angeles it had proved necessary to change certain portions in the city charter in order to bring about desired results. This work was being undertaken through united efforts of the committee on legislation and the committee on competitions, approach having been made to the board of freeholders with certain recommendations as to amending the new charter to be adopted. After a reading of this recommended revision and a complete discussion thereon, the Chapter by resolution adopted, unanimously endorsed the revisions as proposed by the Chapter's joint committees, and further authorized Mr. Allison to call upon any other members of the Chapter for assistance in appearing before the committee from the board of freeholders.

It was further suggested by a Chapter member that the committee on legislation make certain that the present heights of buildings as established in the present charter be retained under the new.

For the permanent committee on Legislation, Mr. J. J. Backus made report of the work done in the joint meeting with the committee on competitions.

For the committee on city planning, Mr. John C. Austin made a report of the year's work. After some discussion, it was moved by Mr. Austin, seconded by Mr. Morgan, that the old committee be discharged and a new committee appointed. After further discussion this was adopted, the appointing of a new committee being deferred by the president until a later date.

Under the head of new business, it was suggested by Mr. A. F. Rosenheim that all Chapter members be advised of the action of this Chapter in adopting the code of ethics, and that a copy of the Institute's Code be sent to each Chapter member for their future guidance.

The meeting adjourned at 10:10 p.m.

Fernand Parmentier, Secretary,
By A. R. Walker, Secretary pro tem.

Minutes of Washington Chapter, A. I. A.

The annual meeting of the Washington State Chapter, American Institute of Architecture, was held at the club house of the Seattle Architectural Club, 203 Fourteenth avenue north, Wednesday evening, November 3rd, with the largest attendance of the year, twenty-three members being present, together with a large number of the members of the Architectural Club.

The reports of the standing committees of the Chapter were read, and a committee appointed to consider instructions to delegates to the annual convention of the Institute at Washington, in December. The delegates to the convention will be appointed by the council.

The following officers for th ensuing year were elected: President, Arthur L. Loveless, Seattle; first vice-president, Joseph S. Cote, Seattle; second vice-president, George Gove, Tacoma; third vice-president, Albert Held, Spokane; secretary, Daniel R. Huntington; treasurer, Ellsworth P. Storey; member of council, James H. Shack—Arthur L. Loveless, Secretary.

Minutes of Oregon Chapter, A. I. A.

New notes of the Oregon Chapter, A. I. A., are as follows:

The Minnesota Chapter's idea of the reorganization scheme of the A. I. A. was endorsed. Copies of November Journal were ordered purchased for distribution to county and city officers. It was voted that a permanent exhibit of building materials in the Builder's Exchange would be a convenience and would have the hearty co-operation of the Chapter.—Respectfully, Jos. Jacobberger, Secretary.

THE ARCHITECT

VOL. X. SAN FRANCISCO, DECEMBER, 1915 NUMBER 6

J. A. DRUMMOND, Publisher . . . . CLARENCE P. KANE, Editor

PUBLISHED IN THE INTERESTS OF THE ARCHITECTURAL PROFESSION, ON THE FIRST OF EACH MONTH, AT 725 CHRONICLE BUILDING, SAN FRANCISCO. SUBSCRIPTION IN THE UNITED STATES AND POSSESSIONS, $5.00 A YEAR; FOREIGN AND CANADIAN, $6.00 A YEAR. SINGLE COPIES, EACH 50 CENTS. ENTERED AS SECOND-CLASS MATTER AT THE POST OFFICE IN SAN FRANCISCO.

PHILADELPHIA OFFICE: BEESON & WILSON, FORREST BUILDING.

CHANGES IN, OR COPY FOR, NEW ADVERTISEMENTS MUST REACH THE OFFICE OF PUBLICATION NOT LATER THAN THE FIFTEENTH OF THE MONTH PRECEDING ISSUE. ADVERTISING RATES AND ANY OTHER INFORMATION WILL GLADLY BE GIVEN UPON APPLICATION. FORMERLY KNOWN AS THE PACIFIC COAST ARCHITECT.

THE EDITOR WILL BE PLEASED TO CONSIDER CONTRIBUTIONS, OF INTEREST TO THE PROFESSION. WHEN PAYMENT FOR SAME IS DESIRED, THIS FACT SHOULD BE STATED. TELEPHONE DOUGLAS 3424.

EDITORIAL

Visions of a Happy Yuletide

With the rapid drawing to a close of the year 1915, and the near approach of the holiday season, it is extremely pleasurable to witness visions of a happy Yuletide season, characterized by a rapidly-returning era of good business.

Judged solely from the standpoint of activity in the building line, it is hardly possible that many of our readers will have special cause for regret on the passing of this year; for it has been a lean twelvemonth for most architects. The redeeming feature takes form in the considerable amount of new work now being planned and projected.

It will be impossible for all of us to rejoice, to the extent of past seasons, in the blessings generally recognized and enjoyed at this period of the year. A conflict-torn continent, which happily excludes the people of this nation, does not prevent the heartburnings of many of us, if not for relatives and friends engaged in fighting, then for humanity's sake, at least; and our 1915 Christmas and New Year joys will be tempered by more serious thought and thanksgiving than usual.

The people of this nation, however, have particular cause to be grateful, and it is our earnest wish that each and everyone of our readers and friends may enjoy to the full a most happy Christmas and prosperous New Year.

* * * * *

Pipe Organs for Small Homes

Through a perusal of the latest styles in small homes and bungalows, we make the rather interesting discovery that an increasingly large number of such buildings include in the plans, provisions for the installation of late models of pipe-organs.

It is not so very long ago that the use of this instrument was the exclusive right of the wealthy owners, and when the word "pipe-organ" was mentioned, the architect usually conjured up monetary obstacles of five-figure shape. The cost was prohibitive for the small-home owner.

Today, all is changed! What practically constitutes a revolution in the design and cost of these instruments has taken place within a surprisingly short period. Wonderful organs are now being built, combining all the latest mechanical attachments and operating in conjunction with the player piano, for prices ranging as low as $2000.

The manufacturers have produced really fine instruments for these figures; opening up great possibilities, which not only add to the beauty of the home but bring to the very hearthstone the pleasures and joys of unmatched harmony—that incomparable combination of tones only produced by the pipe-organ.

* * * * *

Wren's Style of Architecture

That Sir Christopher Wren's style of architecture, so long unrecognized, is now becoming a definite school with a powerful influence upon American architecture, is particularly noticeable to keen observers of the changes and ascendencies of certain styles. Probably there are but few Americans who have any conception of what Wren did for London after the great fire of 1666, when he made plans to restore more than fifty of the most beautiful churches and built St. Paul's Cathedral, a masterpiece of non-Gothic architecture. Wren's influence was felt in every great building erected in London for the next forty years.

Contributions of this genius to English architecture are reflected in the Park Street Church and the Old South in Boston, the Church of St. Chrysostum in Philadelphia; and many other of our best churches, which have survived the eighteenth-century period, bear the mark of this master.

The carpenters of our colonial days were faithful in their reproductions from the original in England, which has engendered and preserved for us a pure type distinctive of Sir. Christopher Wren's style.

Sir Christopher Wren's refutation of the Gothic, which he is said to have so unfeignedly disliked, is distinguished by the tasteful renaissance spire, which rises not from the roof, but from its own base on the ground.

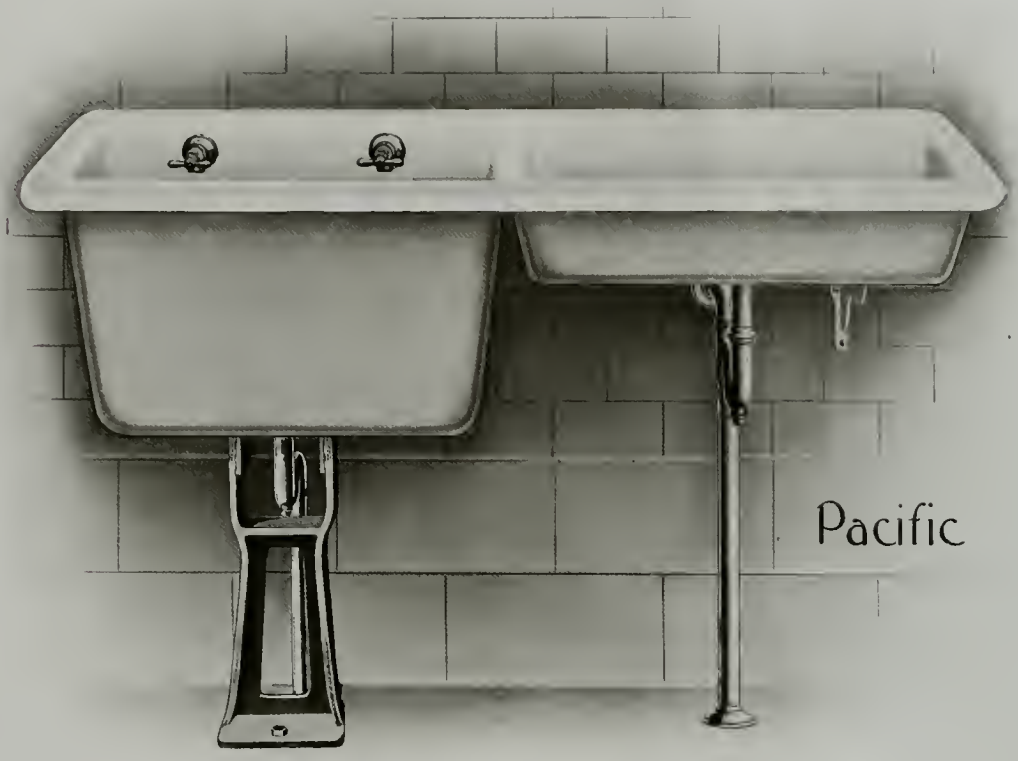
Where our early ancestors copied this style of architecture solely from models, exact reproductions are now being resumed with deliberation. The style is being adapted to modern conditions with great frequency.

* * * * *

Important Contribution to This Issue

We are highly indebted to Architect Charles Sumner Greene of Greene & Greene, Pasadena, author of the chief article appearing in this issue entitled "Impressions of Some Bungalows and Gardens." Mr. Greene also wrote the reviews appearing under each plate in the illustrated section.

We believe the information which Mr. Greene has presented herewith will provide many valuable suggestions in the construction of this class of building.



"Pacific" CLAREMONT SINK AND TRAY COMBINATION

PLATE A-901

Porcelain Enameled Roll Rim Laundry Tray and Sink Combination in one piece with or without one piece back. Sink on either right or left hand side.

QUALITY · DESIGN
Pacific
GUARANTEED

"Pacific"

MADE IN CALIFORNIA U.S.A.

Plumbing Fixtures

Guaranteed for an unlimited period of years against defects in material and manufacture

FACTORIES: RICHMOND, CALIFORNIA

WRITE FOR OUR CATALOG AND BOOKLET ON SCHOOL SANITATION

Best Plaster for

ALL CLASSES OF
BUILDINGS

HOME FOR THE INCURABLES, SAN FRANCISCO
Loring P. Dixford, Architect

KEENE CEMENT GAUGED
For Scratch Coat **LIME MORTAR** For Brown Coat
NON-CORROSIVE —— SOUND PROOF
Costs Less than Hardwall

American Keene Cement Co.
MANUFACTURERS
"STRONGEST KEENE CEMENT KNOWN"
SOLD BY JOBBERS

Mt. Diablo Cement

Always Used Where Quality Counts

COWELL SANTA CRUZ LIME

Henry Cowell Lime & Cement Co.
2 Market Street, San Francisco

BRANCHES:
Oakland Sacramento San Jose Santa Cruz
Portland, Oregon Tacoma, Wash.

Johnson Service Company

ESTABLISHED IN 1885

New Model
Intermediate
Thermostat

The only company on the Pacific Coast handling temperature regulation exclusively with our own corps of Skilled Mechanics.

Johnson Thermostats are Standard

629 Lumberman's Bldg **Portland, Oregon** 1104 White Bldg **Seattle, Wash.**
600 Citizens National Bank Bldg. **Los Angeles**
149 Fifth Street SAN FRANCISCO

Just the Thing for Bungalows, Apartment Houses or Large Residences

This little Tacoma Residence
HAS AN AUTOMATIC COOLER

IT ELIMINATES THE UNSANITARY ICE BOX AS WELL AS THE ICE BILL

IT SAVES MONEY, ROOM, TIME AND TROUBLE

Just the Water that you ordinarily Use First circulates through the Cooler.

Automatic Cooler Co.

TACOMA, WASH

Write for Descriptive Circular

Morsehead Apartments

San Francisco, Cal.

HOUGHTON SAWYER
Architect

Floors of this Building

Constructed with

Meyer System

of Steelforms

CONCRETE ENGINEERING COMPANY

Rialto Building San Francisco, Cal.

Draughtsmen's Blouses

A specially designed studio and office robe, made of well-wearing material, washable, of a serviceable buff shade, offering a complete protection of clothes from wear and tear. Sent to any address, prepaid upon receipt of price.

Style A
$1.50

E. Falkenhainer

25 West 42nd Street
NEW YORK CITY

Style B
$2.00

Special discounts in lots of one dozen or more

ELECTRICAL ILLUMINATING MECHANICAL

Charles T. Phillips

CONSULTING ENGINEER

PACIFIC BUILDING
SAN FRANCISCO

PLANS SPECIFICATIONS REPORTS

The economical production, distribution and application of light, power, heating and ventilation. Illumination efficiency. Electrolysis investigations. Estimates and tests.

Caldalite
SHOWCASE REFLECTOR

"INTENSIVE ADVERTISING"

Efficient Metallic Reflectors for Special Conditions
Showcases, Show Windows, Display Cases, Bank Screens Indirect Cove, Art Galleries, Pulpit, Residence, Stage

DESCRIPTION

The CALDALITE is a soft brown color, 1⅞ inches wide, extending the full length of showcase at front upper angle. Brilliant illumination is secured with either a long or short tubular Tungsten lamp. The current is supplied through small metal tubes from the back of case. There may be from one to six cases on each circuit. It is easily applied without screws or standards to any style showcase and is especially adapted for the all-plate type.

Installations—Los Angeles—Bullock's, Broadway, Ville de Paris, Bank of Italy.

THE CALDALITE COMPANY
R. H. HESS, MANAGER
Phones, Bdway. 1207—Holly. 2857
416 San Fernando Bldg. Los Angeles

The Universal Bed

THE MOST POPULAR DISAPPEARING BED

HOME OFFICE
UNIVERSAL BED COMPANY
Portland, Oregon.

HOLMES DISAPPEARING BED CO
Seattle, Wash.

AMERICAN DISAPPEARING BED CO.
Los Angeles, Calif.

P. R. NORTH, Kansas City, Mo.

FRANK C. BROWN, Salt Lake City.

THOS. R. RONAN, Detroit, Mich.

KINNEY ROME CO., Chicago, Ill.

HOLMES DISAPPEARING BED CO.
Boston, Mass.

H. E. SIMPTON & CO.

Monadnock Bldg. **San Francisco, Cal.**

The Hoffman Heater

THE IDEAL WATER HEATER FOR BUNGALOWS

INSTANTANEOUS! AUTOMATIC!

Always has been and
Always will be

Exact Heater for an Exacting Service

HIGHEST P. P. I. E. AWARDS

The Hoffman Heater Co.

LORAIN, OHIO
Pacific Coast Branch
397 Sutter Street, San Francisco
Phone Kearny 4325
Oakland Office, 533 13th Street
Phone Oakland 2481
Los Angeles Office 312 West 9th Street
Glenn Edgerton

OAKLAND RESIDENCE

BAKEWELL & BROWN
Architects, San Francisco

W. T. WHITE CO.
Builders, Oakland

Equipped With

PITCHER

Disappearing Doors
Adjustable Hangers

AND

PATENTED FRAMES

Pitcher Disappearing Doors installed in 5½ inch partitions. No extra thickness of wall required. Specify Sliding Doors in place of Swinging Doors.

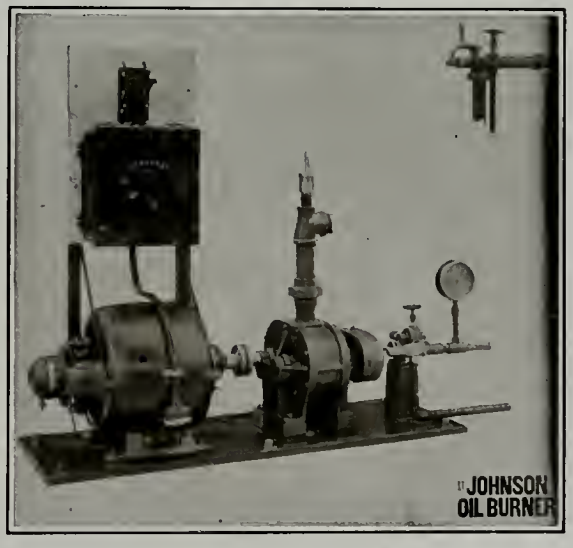
WRITE FOR PARTICULARS

NATIONAL MILL & LUMBER CO.

FIFTH AND BRYANT STS. **SAN FRANCISCO, CAL.**

Low Pressure Crude Oil Burning Equipment

Not how Cheap--but how Serviceable



WILL LAST A LIFETIME—RUNS SLOW

WAR DEPARTMENT
OFFICE CONSTRUCTING QUARTERMASTER,
UNITED STATES ARMY

Fort Mason, San Francisco, Cal.,
Nov. 28, 1914.

S. T. Johnson Co.,
San Francisco, Cal.—

Gentlemen: Referring to your inquiry about the Oil Burning System installed by you at Fort Baker some time ago under this office, I wish to say that this low pressure air burning system has given entire satisfaction. This central system, with its air and oil mains to each building, is very simple and there are no parts to get out of order, if once put in right A saving of about 70 per cent over price of coal has been made by this change, and the plant will soon pay for itself.

Respectfully,
O. W. Degen,
Civil Engineer & Spt. of Const.

The United States Government has 132 Johnson Burners in Daily Use

Some Oil Burner Manufacturers install outfits that operate at speeds at high as 3,400 R. P. M., and if they are worn out as soon as the makers' guarantee expires, "It's up to you." Why have high speed machinery? Johnson systems give long satisfaction.

1337 Mission St.
SAN FRANCISCO

S. T. JOHNSON CO.

AGENTS IN PRINCIPAL
PACIFIC COAST CITIES

HARRY F. CONOVER, ARCHITECT
Washington, D. C.

BUNGALOW RESIDENCE

MR. CHAS. S. BUX
Harrisburg, Penna.

ROOFED FRENCH OR DIAGONAL METHOD WITH

Ambler Asbestos "Century" Shingles

This roofing cannot burn, as you know it is impossible to burn Asbestos and Portland cement, which the AMBLER ASBESTOS "CENTURY" SHINGLES are made of and nothing else, they greatly reduce your fire insurance rates.

Why not pay for roofing once and be done with the eternal upkeep expense? No paint required, they lay flat, do not curl, split, crack, decay or rust. They are made in Red and Gray color, don not require heavy roof construction for support, but will outlast the building.

Specify AMBLER ASBESTOS "CENTURY" SHINGLES. We hold all patents for manufacturing by the "CENTURY" process, the only serviceable and practical method, thereby avoiding substitutions.

Sold by the

Keasbey & Mattison Co.

Manufactured by the
Asbestos Shingle, Slate & Sheathing Co.
Ambler, Penna., U. S. A.

J. A. DRUMMOND

Pacific Coast Representative
725 Chronicle Bldg., San Francisco.
Stock Carried in San Francisco.

PACIFIC COAST DEALERS

San Francisco, Cal.—Plant Rubber & Supply Co., Western Asbestos Magnesia Co.

Los Angeles, Cal.—California Cornice Works; Waterhouse & Price Co., Howe Bros.

Seattle, Tacoma, Spokane, Wash.—P. T. Crowe & Co.

Portland, Ore.—Gillen-Chambers Co.

Phoenix, Ariz.—Arizona Hardware Supply Co.

Sacramento, Cal.—Miller-Enwright Co.

Fresno, Cal—Kutner-Goldstein Co.

SPECIFY

NEPHI PLASTER ONLY

IT MAKES THE WALL

Standard for 25 years on Pacific Coast and Intermountain West

Hardwall, Finishing, Casting, Etc.

NEPHI PLASTER & MANUFACTURING CO.

San Francisco Office, Builders Exchange
180 Jessie Street—Phone Sutter 6700

MAIN OFFICE, 711 BOSTON BUILDING
Salt Lake City, Utah.

PORTLAND LOS ANGELES SEATTLE

R. N. Nason & Co.

PAINT MAKERS

151 Potrero Avenue——SAN FRANCISCO——54 Fine Street

MAKERS

NASON'S OPAQUE FLAT FINISH

A flat oil paint made in soft Kalsomine Tints that is washable—a practical article for walls, ceilings, etc., that is economical and durable.

AGENCY

Tamm & Nolan Co.'s High Grade Varnishes and Finishes

The goods made on the Pacific Coast for the climate of this Coast.

GUARANTEED to meet Standard and U. S. Government Specifications for first grade Portland Cement

Santa Cruz Portland Cement Company

Works: Davenport, Cal.

Standard Portland Cement Corporation

Works: Napa Junction, Cal.

GENERAL OFFICES

Crocker Building San Francisco

WESTERN PACIFIC — FEATHER RIVER ROUTE

THREE THROUGH TRAINS DAILY

8:30 A. M.

The Scenic Limited for — Salt Lake City, Pueblo, Kansas City, St. Louis

Solid all Steel Train

10:00 A. M.

Panama-Pacific Exp. for — Salt Lake City, Denver, Omaha, Chicago

With Through Standard and Tourist Sleepers

8:00 P. M.

The "1915" Mail for — Feather River Canyon Points and Salt Lake City

Service, Scenery, Cuisine, Par-Excellence

BY DAYLIGHT THROUGH

Feather River Canyon and Royal Gorge

TICKET OFFICES:

665 Market Street, Palace Hotel
Market Street Ferry Depot, Phone Sutter 1651
1326 Broadway, Oakland, Phone Oakland 132

SOUTHERN PACIFIC — SUNSET OGDEN & SHASTA ROUTES

FIRST IN SAFETY

CHOICE OF Four Routes EAST

NEW ORLEANS
OGDEN
PORTLAND
EL PASO

"SUNSET ROUTE"

Along the Mission Trail and through the Dixieland of song and story.

Two daily trains to New Orleans via Los Angeles, Tucson, El Paso, San Antonio and Houston. Connecting with Southern Pacific Steamers to New York.

"OGDEN ROUTE"

Across the Sierras and over the Great Salt Lake Cut-off.

Four Daily Trains to Chicago via. Ogden and Omaha; or via Denver and Kansas City to St. Louis. Shortest and Quickest way east.

"EL PASO ROUTE"

The Golden State Route through the Southwest.

Two daily trains to Chicago and St. Louis via Los Angeles, Tucson, El Paso and Kansas City.

"SHASTA ROUTE"

Skirting majestic Mount Shasta and crossing the Siskiyous.

Four daily trains to Portland, Tacoma and Seattle—through Oregon and the Pacific Northwest.

Southern Pacific Service is Standard

Best Dining Car in America

Oil Burning Engines—No cinders, No Smudge, No Annoying Smoke

Awarded Grand Prize for Railway Track, Equipment, Motive power and Safety-First appliances, San Francisco Exposition, 1915.

For Fares and Train Service, Ask Southern Pacific Station Agent

MACKEY PUBLISHING CO., San Francisco.

OAKLAND CITY HALL
Oakland, Cal.

PALMER, HORNBOSTLE & JONES
Architects

Otis Elevator Equipment:

4 passenger traction elevators, 1 freight elevator, 2 automatic push button passenger elevators, 1 hydro - pneumatic direct lift freight elevator.

Your Client's *Final* Judgment

It is your client's FINAL rather than first judgment that should count with the architect. This final judgment depends upon the permanency and productivity of your work.

When the architect aims for a favorable final judgment, the only safe policy where elevators are concerned is to recommend

OTIS ELEVATORS

which, one and all, have built-in qualities becoming more and more appreciated by and profitable to your client as time goes on.

Why chance a client's complaint of the elevator service when that chance is always unnecessary?

OTIS ELEVATOR COMPANY

Eleventh Ave. and Twenty-sixth St., New York

2300 Stockton Street, San Francisco

OFFICES IN ALL PRINCIPAL CITIES OF THE WORLD

The WORLD'S WORD for
ELEVATOR SAFETY